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# Systematics of moths in the genus *Catocala* (Lepidoptera, Erebidae) IV. Nomenclatorial stabilization of the Nearctic fauna, with a revised synonymic check list

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## Abstract

The taxonomy of the Nearctic species in the genus *Catocala* is reviewed, and a revised check list presented. A total of 101 species is recognized, with a synonymy comprising 357 names. The status of 61 available names is assessed, with designation and illustration of 41 lectotypes and 5 neotypes. Taxonomic changes include 23 new synonymies, 3 revised synonymies, 8 new statuses and 1 revised status. Two subspecies are elevated to species rank (*Catocala carissima* Hulst, 1884 and *Catocala luctuosa* Hulst, 1884), 15 subspecies are synonymized, and another 15 species are either downgraded to subspecies or synonymized.

## Keywords

Lepidoptera, Erebidae, *Catocala*, taxonomy, nomenclature, lectotypes, neotypes, Nearctic region

## Introduction

The holarctic genus *Catocala* Schrank (1802) in the family Erebidae (treatment sensu Zahiri et al. 2010) contains more than 200 species worldwide. The most recent revision of the North American species was Barnes and McDunnough's (1918) monograph, and the Nearctic faunal list has subsequently grown to encompass 357 available

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and/or infrasubspecific names. The present paper is the fourth in a series on Nearctic *Catocala* taxonomy. The previous papers addressed 116 available and 15 infrasubspecific names, with designation of 78 lectotypes and 3 neotypes, and 6 changes in status (Gall 1990; Gall and Hawks 1990, 2002b). Here we discuss in further detail 61 of the other 147 available names that warrant nomenclatorial action to promote stability, and present a revised check list for the Nearctic fauna.

## Materials and methods

Nomenclatorial protocol follows Gall and Hawks (2002b: 234–235). To paraphrase, the early *Catocala* workers used the terms "type" and "types" loosely, and a priori we presume there may be syntypes even when original descriptions use the singular. In addition, the terms "form" and "variety" were used in both subspecific and infrasubspecific manners, and different authors had varying and potentially confusing, inconsistent customs. Determining infrasubspecific intent often requires tracing context for a name through the early literature until the publication of Barnes and McDunnough's (1918) definitive monograph, and may not be evident simply by reading the original description (many of which are brief). For example, G. D. Hulst used the term "var." for *Catocala* names in potentially subspecific and/or infrasubspecific manners, sometimes within a single publication, e.g.: "I use the word variety to mean a local form, which breeds true to itself, but is yet known by intergrades, or breeding elsewhere, to be connected to the stem form of the species… I also give variety standing to marked accidental variations among the Catocalae, which do not breed true to themselves…" (Hulst 1884: 28).

Institutional acronyms follow Arnett et al. (1993): AMNH = American Museum of Natural History, New York; ANSP = Academy of Natural Sciences, Philadelphia; BMNH = The Natural History Museum, London; CMNH = Carnegie Museum of Natural History, Pittsburgh; CNC = Canadian National Collection of Insects, Ottawa; CUIC = Cornell University, Ithaca; FMNH = Field Museum of Natural History, Chicago; MCZ = Museum of Comparative Zoology, Cambridge (USA); PMNH = Peabody Museum of Natural History, New Haven; USNM = United States National Collection, Smithsonian Institution, Washington.

## Results

Type specimens for the 357 Nearctic *Catocala* names are scattered widely in dozens of institutional collections throughout North America and Europe. We have located and examined what we consider to be suitable type material for all but 19 of the 357 names - 6 available, and 13 infrasubspecific. Types are presumed lost for another 8 available names authored by J. E. Smith, D. Drury, P. Cramer, and J. Hübner. However, application of these 14 available and 13 infrasubspecific names has remained stable since Barnes and McDunnough (1918).

For the 61 available names treated below in the "Taxonomic Assessments" section, 41 lectotypes are designated. In addition, 5 neotypes are designated for names in taxonomically difficult western Nearctic species complexes (notably the species whose larvae feed on willows and poplars) for which unequivocal type material is lacking, since these taxa can not be adequately stabilized in the absence of types (see further elaboration in Gall and Hawks 2002b: 235). In addition, 23 new synonymies (8 species and 15 subspecies downgraded to synonyms), 3 revised synonymies, 8 new statuses (7 species downgraded to subspecies, one subspecies elevated to species), and one revised status (subspecies elevated to species) are established.

The ranks and statuses for the remaining 86 available names in the Nearctic fauna have either been long since established in the literature, or recently reexamined (Gall 1992, 2002, Gall and Hawks 2002b; Hawks 2010; Brou 2002a, 2002b). Another 3 previously available names have been formally excluded here: *Phalaena amasia* (J. E. Smith, 1797) (suppressed in Opinion 1774; ICZN 1994); *Catocala polygama* Guenée, 1852 (suppressed in Opinion 2068; ICZN 2004); and *Catocala protonympha* Boisduval, 1840 (a *nomen oblitum*, the corresponding *nomen protectum* being *Catocala louiseae* Bauer, 1965; Gall and Hawks [2002a]).

The Nearctic *Catocala* fauna comprises 101 species. In the Check List and Taxonomic Assessments sections below, names for the taxa are presented in alphabetical order. Actions taken in the Taxonomic Assessments section are summarized in Table 1. An alphabetical checklist of the Nearctic Catocala is given in Appendix 1, and a phylogenetic list of the species and subspecies is given in Appendix 2.

**Table 1.** Synopsis of actions taken in this paper regarding Nearctic names in the genus *Catocala* Schrank.

| Name | Author | Year | Assigned To Taxon | Typification | Status Change |
|---|---|---|---|---|---|
| *allusa* | Hulst | 1884 | subspecies of *C. faustina* Strecker, 1874 | lectotype | new status |
| *augusta* | H. Edwards | 1875 | synonym of *C. junctura* Walker, [1858] | lectotype | new synonymy |
| *barnesii* | French | 1900 | synonym of *C. agrippina* Strecker, 1874 | lectotype | none |
| *beutenmuelleri* | Barnes & McDunnough | 1910 | synonym of *C. verrilliana* Grote, 1875 | lectotype | new synonymy |
| *blandula* | Hulst | 1884 | full species | lectotype | none |
| *caerulea* | Beutenmüller | 1907 | synonym of *C. faustina cleopatra* Strecker, 1874 | lectotype | new synonymy |
| *carissima* | Hulst | 1880 | full species | lectotype | new status |
| *cassandra* | H. Edwards | 1875 | synonym of *C. electilis* Walker, [1858] | lectotype | none |
| *charlottae* | Brou | 1988 | subspecies of *C. praeclara* Grote & Robinson, 1866 | | new status |
| *concumbens* | Walker | [1858] | full species | lectotype | none |
| *cordelia* | H. Edwards | 1880 | synonym of *C. connubialis* Guenée, 1852 | lectotype | none |
| *crataegi* | Saunders | 1876 | full species | lectotype | none |
| *dana* | Cassino | 1918 | synonym of *C. mira* Grote, 1918 | | new synonymy |

| Name | Author | Year | Assigned To Taxon | Typification | Status Change |
|---|---|---|---|---|---|
| *denussa* | Ehrman | 1893 | synonym of *C. habilis* Grote, 1872 | | revised synonymy |
| *diantha* | Beutenmüller | 1907 | synonym of *C. hermia hermia* H. Edwards, 1880 | lectotype | none |
| *dionyza* | H. Edwards | 1885 | subspecies of *C. piatrix* Grote, 1864 | lectotype | none |
| *dollii* | Beutenmüller | 1907 | synonym of *C. ophelia* H. Edwards, 1880 | neotype | none |
| *edwardsi* | Kusnezov | 1903 | synonym of *C. californica* W.H. Edwards, 1864 | | new synonymy |
| *elda* | Behrens | 1887 | synonym of *C. relicta* Walker, [1858] | lectotype | new synonymy |
| *elizabeth* | Cassino | 1918 | synonym of *C. californica* W.H. Edwards, 1864 | | new synonymy |
| *elsa* | Beutenmüller | 1918 | synonym of *C. junctura* Walker, [1858] | | new synonymy |
| *erichi* | Brower | 1976 | synonym of *C. californica* W.H. Edwards, 1864 | | new synonymy |
| *euphemia* | Beutenmüller | 1907 | subspecies of *C. neogama* (J.E. Smith, 1797) | lectotype | new status |
| *francisca* | H. Edwards | 1880 | subspecies of *C. hermia* H. Edwards, 1880 | lectotype | new status |
| *frenchii* | Poling | 1901 | synonym of *C. faustina allusa* Hulst, 1884 | lectotype | revised synonymy |
| *gisela* | Meyer | 1880 | synonym of *C. micronympha* Guenée, 1852 | lectotype | none |
| *grotiana* | Bailey | 1879 | full species | neotype | none |
| *hippolyta* | Strecker | 1874 | subspecies of *C. semirelicta* Grote, 1874 | | new status |
| *irene* | Behr | 1870 | full species | neotype | none |
| *jessica* | Strecker | 1877 | full species | lectotype | none |
| *loretta* | Barnes & McDunnough | 1918 | synonym of *C. neogama neogama* (J.E. Smith, 1797) | lectotype | new synonymy |
| *luctuosa* | Hulst | 1884 | full species | lectotype | revised status |
| *maestosa* | Hulst | 1884 | full species | lectotype | none |
| *manitoba* | Beutenmüller | 1908 | subspecies of *C. praeclara* Grote & Robinson, 1866 | lectotype | new status |
| *manitobensis* | Cassino | 1918 | synonym of *C. blandula* Hulst, 1885 | | new synonymy |
| *margherita* | Beutenmüller | 1918 | synonym of *C. junctura* Walker, [1858] | | new synonymy |
| *minerva* | Cassino | 1917 | synonym of *C. briseis* W.H. Edwards, 1864 | | new synonymy |
| *miranda* | H. Edwards | 1881 | full species | lectotype | none |
| *nebraskae* | Dodge | 1875 | synonym of *C. luciana* Strecker, 1874 | lectotype | none |
| *nerissa* | H. Edwards | 1880 | synonym of *C. lineella* Grote, 1872 | lectotype | revised synonymy |
| *nevadensis* | Beutenmüller | 1907 | synonym of *C. semirelicta semirelicta* Grote, 1874 | lectotype | new synonymy |
| *nuptula* | Walker | [1858] | synonym of *C. grynea* (Cramer, 1780) | lectotype | none |

| Name | Author | Year | Assigned To Taxon | Typification | Status Change |
|---|---|---|---|---|---|
| *nurus* | Walker | [1858] | synonym of *C. amatrix* (Hübner, [1813]) | lectotype | none |
| *olivia* | H. Edwards | 1880 | synonym of *C. alabamae* Grote, 1875 | | new synonymy |
| *orion* | McDunnough | 1922 | synonym of *C. meskei* Grote, 1873 | | new synonymy |
| *phoebe* | Hulst | 1884 | synonym of *C. badia coelebs* Grote, 1874 | lectotype | none |
| *phoebe* | H. Edwards | 1885 | synonym of *C. badia coelebs* Grote, 1874 | lectotype | none |
| *pura* | Hulst | 1880 | synonym of *C. semirelicta semirelicta* Grote, 1874 | lectotype | new synonymy |
| *rosalinda* | H. Edwards | 1880 | synonym of *C. meskei* Grote, 1873 | lectotype | none |
| *sancta* | Hulst | 1884 | synonym of *C. connubialis* Guenée, 1852 | lectotype | none |
| *sheba* | Cassino | 1919 | synonym of *C. hermia hermia* H. Edwards, 1880 | lectotype | new synonymy |
| *sorsconi* | Barnes & Benjamin | 1924 | synonym of *C. consors* (J.E. Smith, 1797) | | new synonymy |
| *stretchii* | Behr | 1870 | synonym of *C. junctura* Walker, [1858] | neotype | new synonymy |
| *texanae* | French | 1902 | full species | neotype | none |
| *texarkana* | Brower | 1976 | subspecies of *C. pretiosa* Lintner, 1876 | | new status |
| *titania* | Dodge | 1900 | synonym of *C. alabamae* Grote, 1876 | lectotype | new synonymy |
| *unijuga* | Walker | [1858] | full species | lectotype | none |
| *valeria* | H. Edwards | 1880 | synonym of *C. irene* Behr, 1870 | lectotype | new synonymy |
| *verecunda* | Hulst | 1884 | synonym of *C. hermia hermia* H. Edwards, 1880 | lectotype | new synonymy |
| *violenta* | H. Edwards | 1880 | full species | lectotype | none |
| *werneri* | Biederman | 1909 | synonym of *C. verrilliana* Grote, 1875 | lectotype | none |

## Taxonomic Assessments

***Catocala faustina* ssp. *allusa* Hulst, stat. n.**
Fig. 1 (lectotype)

*Catocala allusa* Hulst, 1884: 45
*Catocala allusa*; Barnes and McDunnough 1918: 22
*Catocala allusa*; McDunnough 1938: 116
*Catocala allusa*; Franclemont and Todd 1983: 128

**Type material.** *Catocala allusa*: the original description does not state the number of types. A female type is at the USNM, and is designated as **lectotype** to clarify applica-

tion of the name *allusa*. The lectotype bears the labels "Was. T.", "Catocala / allusa / Orig. Type. Hulst", "Type No. / 33992 / U.S.N.M." The geographic distribution of *Catocala allusa* is broadly parapatric with that of *Catocala faustina* Strecker, 1873 in northwestern North America; *C. allusa* blends with *C. faustina cleopatra* Strecker, 1874 in northwestern California, and with *C. faustina faustina* in the Rocky Mountains of Idaho, Wyoming and Montana. The larvae of *C. allusa* and *C. faustina* also do not differ appreciably, and so we place *C. allusa* as a subspecies of *Catocala faustina* Strecker, 1873. We refer material from the coastal areas of northern California, Oregon, Washington and British Columbia to *C. faustina allusa*. Type Locality: Was[hington] T[erritory, USA].

***Catocala junctura* syn. *augusta* H. Edwards, syn. n.**
Fig. 2 (lectotype)

*Catocala augusta* H. Edwards, 1875a: 1
*Catocala aspasia* form *augusta*; Barnes and McDunnough 1918: 31
*Catocala arizonae* ssp. *augusta*; McDunnough 1938: 117
*Catocala arizonae* ssp. *augusta*; Franclemont and Todd 1983: 129

**Type material.** *Catocala augusta*: the original description states "Mrs. Behrens took two specimens of this charming insect in August last." A female type is at the AMNH, and is designated as **lectotype** to clarify application of the name *augusta*. The lectotype bears the labels "6035 / S. Diego / Califor.", "No. 12654 / Collection / Hy. Edwards", "Type / No. / A.M.N.H.", "Type. / augusta / Hy. Edws." The lectotype of *C. augusta* is a typical specimen of the widespread and morphologically variable *C. junctura* Walker [1858]. Type Locality: San Diego, Califor[nia, USA].

***Catocala agrippina* syn. *barnesii* French**
Fig. 3 (lectotype)

*Catocala barnesii* French, 1900: 190
*Catocala agrippina* syn. *barnesi*; Barnes and McDunnough 1918: 12
*Catocala agrippina* syn. *barnesi*; McDunnough 1938: 115
*Catocala agrippina* syn. *barnesi*; Franclemont and Todd 1983: 128

**Type material.** *Catocala barnesii*: the original description states "two examples from San Antonio, Texas; in the cabinet of Dr. Wm. Barnes, Decatur Ill." These syntypes are at the USNM, and a male is designated as **lectotype** to clarify application of the name *barnesii*. The lectotype bears the labels "San Antonio / Texas", "barnesii [sic] / Type", "Barnes / Collection." Type Locality: San Antonio, Texas, [USA].

**Figures 1–8.** Type specimens of *Catocala*. **1** lectotype, *C. allusa* Hulst, 1884 **2** lectotype, *C. augusta* H. Edwards, 1875 **3** lectotype *C. barnesii* French, 1900 **4** lectotype, *C. beutenmuelleri* Barnes & McDunnough, 1910 **5** lectotype, *C. blandula* Hulst, 1884 **6** lectotype, *C. caerulea* Beutenmüller, 1907 **7** lectotype, *C. carissima* Hulst, 1880 **8** lectotype, *C. cassandra* H. Edwards, 1875.

***Catocala verrilliana* syn. *beutenmuelleri* Barnes & McDunnough, syn. n.**
Fig. 4 (lectotype)

*Catocala beutenmuelleri* Barnes & McDunnough, 1910: 251
*Catocala verrilliana* race *beutenmuelleri*; Barnes and McDunnough 1918: 37
*Catocala verrilliana* ssp. *beutenmulleri*; McDunnough 1938: 117
*Catocala verrilliana* ssp. *beutenmulleri*; Franclemont and Todd 1983: 129

**Type material.** *Catocala beutenmuelleri*: the original description states "Provo Ut. (Spalding), 3 ♂, 1 ♀. Type, coll. Barnes." A male type is at the USNM, and is designated as **lectotype** to clarify application of the name *beutenmuelleri*. The lectotype bears the labels "Tom Spalding / VIII-2-9 / Provo Utah", "Catocala / beutenmuelleri / B+McD / Type ♂." The name *beutenmuelleri* has been retained since Barnes and McDunnough (1918) as a western subspecies of *C. verrilliana* Grote, 1875. However, specimens referable to *C. beutenmuelleri* are part of the normal infrapopulational variation seen throughout the geographic range of *C. verrilliana*. Type Locality: Provo, Ut[ah, USA].

***Catocala blandula* Hulst**
Fig. 5 (lectotype)

*Catocala blandula* Hulst, 1884: 38
*Catocala blandula*; Barnes and McDunnough 1918: 41
*Catocala blandula*; McDunnough 1938: 118
*Catocala blandula*; Franclemont and Todd 1983: 129

**Type material.** *Catocala blandula*: the original description does not state the number of types. A male and female type are at the AMNH, and the male is designated as **lectotype** to clarify application of the name *blandula*. The lectotype bears the labels "♂", "Vt.", "Collection / GDHulst", "Catocala / blandula / Type Hulst." Type Locality: hereby restricted to V[ermon]t, [USA] on the basis of the lectotype label.

***Catocala faustina* ssp. *allusa* syn. *caerulea* Beutenmüller, syn. n.**
Fig. 6 (lectotype)

*Catocala caerulea* Beutenmüller, 1903: 939
*Catocala faustina* race *caerulea*; Barnes and McDunnough 1918: 23
*Catocala cleopatra* ssp. *caerulea*; McDunnough 1938: 116
*Catocala cleopatra* ssp. *caerulea*; Franclemont and Todd 1983: 128

**Type material.** *Catocala caerulea*: the original description does not state the number of types. There are two male types at the AMNH, and one is designated as **lectotype**

to clarify application of the name *caerulea*. The lectotype bears the labels "Oregon", "Type / No. / A.M.N.H.", "Catocala / caerulea / Beut." The name *caerulea* has been treated since Barnes and McDunnough (1917) as a subspecies of nominate *C. faustina*, but the name *allusa* Hulst, 1884 has priority over the name *caerulea* for the coastal northwestern subspecies. Type Locality: Oregon, [USA].

***Catocala carissima* Hulst, stat. n.**
Fig. 7 (lectotype)

*Catocala carissima* Hulst, 1880: 97
*Catocala cara* race *carissima*; Barnes and McDunnough 1918: 31
*Catocala cara* ssp. *carissima*; McDunnough 1938: 117
*Catocala cara* ssp. *carissima*; Franclemont and Todd 1983: 129

**Type material.** *Catocala carissima*: The original description does not state the number of types. Several types are at the AMNH, and a male is designated as **lectotype** to clarify application of the name *carissima*. The lectotype bears the labels "Fla.", "Collection / GDHulst", "Catocala / cara / var. carissima / Type Hulst." Hulst (1880: 97) stated "We have a form of *Catocala cara* which is not found in the North and which seems to be the constant form in the South." Specimens of *C. cara* and *C. carissima* are readily separable, and despite the fact that *C. cara* is principally northern and *C. carissima* principally southern, a zone of sympatry extends across much of the southern United States. The egg of *C. carissima* is consistently smaller than that of *C. cara* (eggs from several females of each taxon have been examined; this size difference is unusual among related species of *Catocala*). We have never reared *C. carissima* from *C. cara* females, out of a half dozen broods from differing locations in the USA, and hence elevate *C. carissima* to species rank. Type Locality: hereby restricted to Fl[orid]a, [USA] on the basis of the lectotype locality label.

***Catocala electilis* syn. *cassandra* H. Edwards**
Fig. 8 (lectotype)

*Catocala cassandra* H. Edwards, 1875b: 214
*Catocala electilis* syn. *cassandra*; Barnes and McDunnough 1918: 30
*Catocala electilis* syn. *cassandra*; McDunnough 1938: 117
*Catocala electilis* syn. *cassandra*; Franclemont and Todd 1983: 129

**Type material.** *Catocala cassandra*: the original description states "Guadalajara, Mexico, Baron Terloo. (Coll. Hy. Edw.)." A male type is at the AMNH, and is designated as **lectotype** to clarify application of the name *cassandra*. The lectotype bears the labels "6034 / Mexico", "Type / No. / A.M.N.H.", "No. 11763 / Collection / Hy. Edwards.", "Catocala type / cassandra Hy. Ed. / Guadalajara. Mex.", "C. electilis /

v. cassandra / Hy. Edw.", "in coll. as / Catocala / electilis / Walker." Type Locality: Guadalajara, Mexico.

### *Catocala praeclara* ssp. *charlottae* Brou, stat. n.

*Catocala charlottae* Brou, 1988: 116

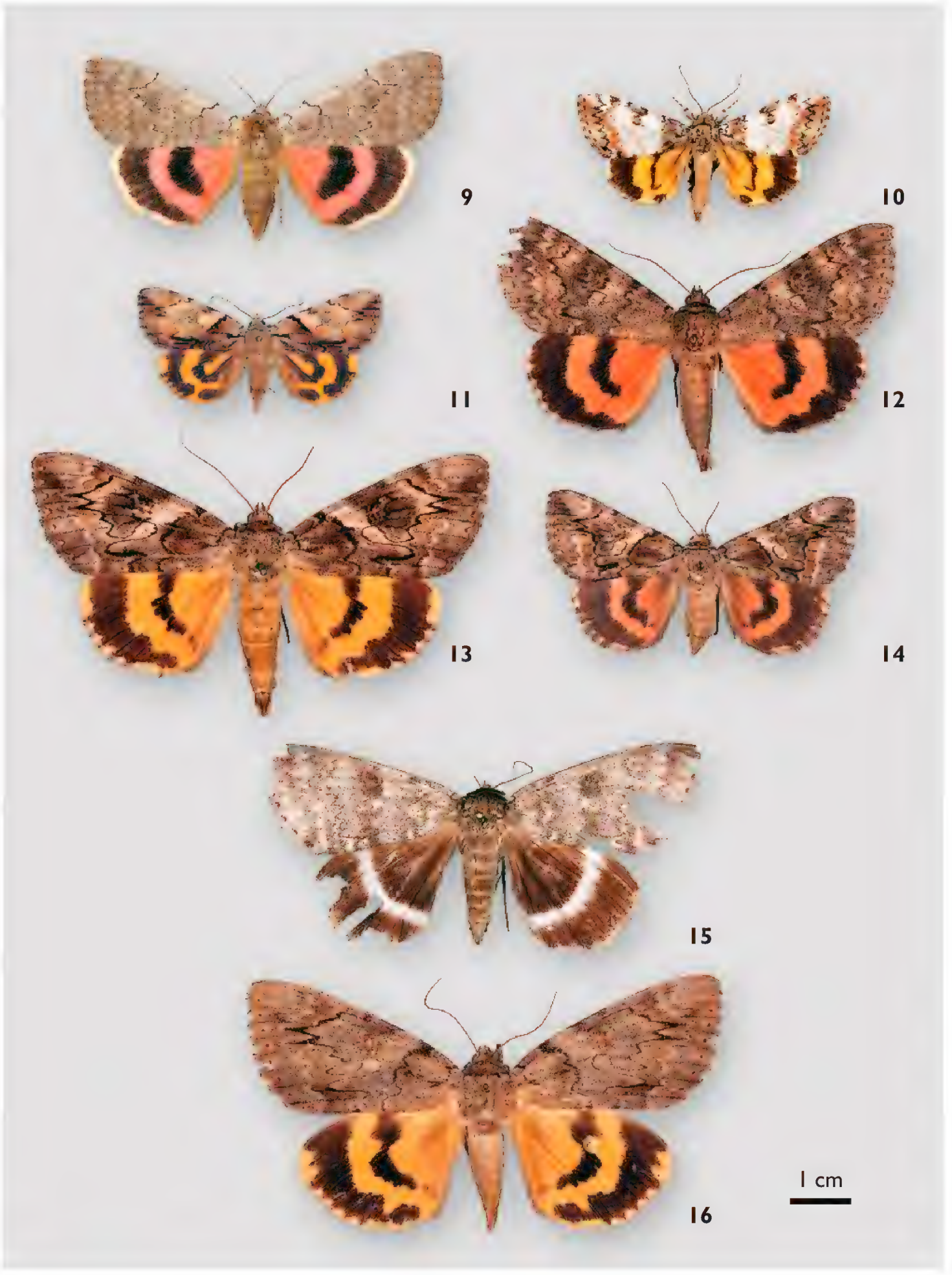
**Type material.** *Catocala charlottae*: holotype ♂ [USNM, examined]. The original description inexplicably compared *C. charlottae* only to the sympatric *C. alabamae* Grote, 1875, and not to the more similar and widespread *C. praeclara* Grote & Robinson, 1866. Specimens of *C. charlottae* have been reported from a scattering of counties abutting or near the Gulf of Mexico in Louisiana, Mississippi, and Florida; although several hundred specimens have been collected from the type locality (Abita Springs) only a few dozen specimens exist from all other localities combined. The type locality of *C. charlottae* is also the most southwesterly population known for *praeclara*, and appears to be somewhat isolated geographically from other Gulf Coast populations, although we suspect this may be an artifact of limited sampling. We have examined a series of over one hundred topotypes of *C. charlottae*, and although these are fairly homogeneous (forewings largely lacking both the lustrous blue-green scaling and prominent basal dash, and with an overshading of brown), about five percent of the topotypes are like *C. praeclara* from other localities in North America. Baggett (1989) reported that "*charlottae* and a *praeclara*-like morph were reared from the same batch of eggs," and J. Slotten (in litt.) has reared specimens both with and without the basal dash from the same female. The larva of *C. charlottae* is similar to nominate *C. praeclara*, and unlike the larva of *C. alabamae*. Given these rearing results, and the broad overlap in morphological variation of adult *C. charlottae* and *C. praeclara*, we consider *C. charlottae* to be best treated as a subspecies of *C. praeclara* Grote & Robinson, 1866. Additional collecting and ex ovis rearing are desirable from the southern United States, notably in the apparent sampling gap in Mississippi and Alabama. See the account for *C. manitoba* Beutenmüller, 1908 below for further discussion of geographic variability in *C. praeclara*. Type Locality: 4.2 mi. NE Abita Springs, S[ain]t Tammany Parish, Louisiana, [USA].

### *Catocala concumbens* Walker

Fig. 9 (lectotype)

*Catocala concumbens* Walker, [1858]: 1198
*Catocala concumbens*; Barnes and McDunnough 1918: 32
*Catocala concumbens*; McDunnough 1938: 117
*Catocala concumbens*; Franclemont and Todd 1983: 129

**Type material.** *Catocala concumbens*: the original description states "a. Orilla [sic], West Canada. From Mr. Bush's collection. b. North America." A female type is at




**Figures 9–16.** Type specimens of *Catocala*. **9** lectotype, *C. concumbens* Walker, [1858] **10** lectotype, *C. cordelia* H. Edwards, 1880 **11** lectotype, *C. crataegi* Saunders, 1876 **12** lectotype, *C. diantha* Beutenmüller, 1907 **13** lectotype, *C. dionyza* H. Edwards, 1885 **14** neotype, *C. dollii* Beutenmüller, 1907 **15** lectotype, *C. elda* Behrens, 1887 **16** lectotype, *C. euphemia* Beutenmüller, 1907.

the BMNH, and is designated as **lectotype** to clarify application of the name *concumbens*. The lectotype bears the labels "Canada / Ontario / Orilla / Bush. / 56-13", "Canada W. / 56-13 [and on the reverse:] Catocala / concumbens / Walker Type." Type Locality: hereby restricted to Orillia, [Ontario,] Canada on the basis of the lectotype label.

### *Catocala connubialis* syn. *cordelia* H. Edwards

Fig. 10 (lectotype)

*Catocala cordelia* H. Edwards, 1880b: 59
*Catocala cordelia*; Barnes and McDunnough 1918: 44
*Catocala connubialis* syn. *cordelia*; McDunnough 1938: 118
*Catocala connubialis* syn. *cordelia*; Franclemont and Todd 1983: 129

**Type material.** *Catocala cordelia*: the original description states "five specimens… Types, coll. Dr. James S. Bailey, Hy. Edwards." A male type is at the AMNH, and is designated as **lectotype** to clarify application of the name *cordelia*. The lectotype bears the labels "Tallahassee / Florida.", "Type / No. / A.M.N.H.", "No. 11793 / Collection / Hy. Edwards.", "Catocala / cordelia / Type / Hy. Ed." Type Locality: Tallahassee, Florida, [USA].

### *Catocala crataegi* Saunders

Fig. 11 (lectotype)

*Catocala crataegi* Saunders, 1876: 72
*Catocala crataegi*; Barnes and McDunnough 1918: 39
*Catocala crataegi*; McDunnough 1938: 118
*Catocala crataegi*; Franclemont and Todd 1983: 129

**Type material.** *Catocala crataegi*: the original description cites "[adult] specimens [reared from larvae] taken by bush beating about the middle of June." Barnes and McDunnough (1918: 39) referred to a male type at the BMNH, and it is designated as **lectotype** to clarify application of the name *crataegi*. The lectotype bears the labels "Grote Coll. / 81-116", Canada / Saunders", "Canada / 81-116 [and on the reverse:] Catocala / crataegi / Type Saunders." Type Locality: [London, Ontario, Canada].

### *Catocala mira* syn. *dana* Cassino, syn. n.

*Catocala mira* var. *dana* Cassino, 1918a: 54
*Catocala mira* ssp. *dana*; McDunnough 1938: 118

*Catocala mira* ssp. *dana*; Franclemont and Todd 1983: 129

**Type material.** *Catocala mira* var. *dana*: the original description states a "Holotype ♂ in the collection of the author." There is a female at the USNM [Type No. 44533, examined] with a Cassino type label and appropriate locality data, and because Cassino often missexed his material, we consider this female to be his holotype. The name *dana* has in the past been treated as a subspecies of *C. mira* Grote, 1876, probably based on small sample sizes and limited knowledge of geographic variation in this species. We have examined large numbers of *C. mira* from throughout North America, and find the name *dana* to be neither distinctive nor geographically definable. Type Locality: Springfield, Texas, [USA].

### ***Catocala habilis*** **syn.** ***denussa*** **Ehrman, syn. rev.**

*Catocala denussa* Ehrman, 1893: 152
*Catocala denussa*; Beutenmüller 1913: 97
*Catocala denussa*; Barnes and McDunnough 1918: 9
*Catocala palaeogama* syn. *denussa*; McDunnough 1938: 115
*Catocala palaeogama* syn. *denussa*; Franclemont and Todd 1983: 128

**Type material.** *Catocala denussa*: the holotype male [CMNH, examined] is a melanic aberrant of *C. habilis* Grote, 1872 as originally suggested by Ehrman and Beutenmüller (1913). The name was incorrectly placed as a synonym of *C. palaeogama* Guenée, 1852 in McDunnough (1938). Type Locality: [Browns Hills, Pittsburgh], Allegeny County, Penn[sylvania, USA].

### ***Catocala hermia*** **ssp.** ***hermia*** **syn.** ***diantha*** **Beutenmüller**
Fig. 12 (lectotype)

*Catocala diantha* Beutenmüller, 1907: 937
*Catocala verecunda* syn. *diantha*; Barnes and McDunnough 1918: 21
*Catocala hermia* ssp. *verecunda* syn. *diantha*; McDunnough 1938: 116
*Catocala hermia* ssp. *verecunda* syn. *diantha*; Franclemont and Todd 1983: 128

**Type material.** *Catocala diantha*: the original description states "Collections, William Barnes, Jacob Doll, American Entomological Society, American Museum of Natural History, and United States National Museum." Three types are at the AMNH, and a male is designated as **lectotype** to clarify application of the name *diantha*. The lectotype bears the labels "Denver, Col. / 9-3-02.", "No. 22374 / Museum Coll.", "Type / No. / A.M.N.H.", "Catocala / diantha / Beuten." Type Locality: hereby restricted to Denver, Colorado [USA] on the basis of the lectotype locality label.

***Catocala piatrix* ssp. *dionyza* H. Edwards**
Fig. 13 (lectotype)

*Catocala dionyza* H. Edwards, 1885: 124
*Catocala piatrix* syn. *dionyza*; Barnes and McDunnough 1918: 5
*Catocala piatrix* ssp. *dionyza*; McDunnough 1938: 115
*Catocala piatrix* ssp. *dionyza*; Franclemont and Todd 1983: 128

**Type material.** *Catocala dionyza*: the original description states "2 ♂... Arizona. Coll. B. Neumoegen." A male type is at the USNM, and is designated as **lectotype** to clarify application of the name *dionyza*. The lectotype bears the labels "Arizona" "Type No. / 33996 / U.S.N.M." Col. / B. Neumogen" "Catocala / Type / dionyza. Hy. Edw." Type Locality: Arizona, [USA].

***Catocala ophelia* syn. *dollii* Beutenmüller, syn. n.**
Fig. 14 (neotype)

*Catocala ophelia* var. *dollii* Beutenmüller, 1907: 940
*Catocala ophelia* form *dolli*; Barnes and McDunnough 1918: 38
*Catocala ophelia* ssp. *dolli*; McDunnough 1938: 117
*Catocala ophelia* ssp. *dolli*; Franclemont and Todd 1983: 129

**Type material.** *Catocala ophelia* var. *dollii*: the original description states "Male… Habitat – Colorado. A single specimen of this odd variety is in the collection of Mr. Jacob Doll." Barnes and McDunnough (1918) claimed to have figured the holotype by monotypy, but the specimen from Doll's collection marked as type at the USNM is a female from Arizona and bears a label written in 1932 by F. H. Benjamin stating "prob. spurious type." Benjamin apparently worked on but never resolved this issue, as several other specimens of *C. dollii* in the USNM and AMNH collections bear notes by him inquiring as to the status of the holotype. Given Benjamin's difficulties and the fact that the name refers to one of the taxonomically difficult western Nearctic species, we designate the USNM female noted above as **neotype** to clarify application of the name *dollii*. The neotype bears the labels "Prescott / VII. 21 Ariz.", "Col. / Jacob Doll", "Type / No. / A.M.N.H.", "Type No. / 44535 / U.S.N.M.", "Prob. spurious type. / Should be a ♂ from / Colorado (Doll Coll.) / FHB. 1932." Type Locality: hereby amended to Prescott, Ariz[ona, USA] on the basis of the neotype labels.

***Catocala californica* syn. *edwardsi* Kusnezov, syn. n.**

*Catocala edwardsi* Kusnezov, 1903: 75
*Catocala edwardsi*; Barnes and McDunnough 1918: 24

*Catocala californica* ssp. *edwardsi*; McDunnough 1938: 116
*Catocala californica* ssp. *edwardsi*; Franclemont and Todd 1983: 128

**Type material.** *Catocala edwardsi*: the name *edwardsi* is a replacement name for *C. mariana* Strecker, 1874, with the same type specimen and type locality [FMNH, examined], and *C. mariana* Strecker is a primary junior homonym of *C. mariana* Rambur, 1866 (see Gall and Hawks 1990). Although *C. edwardsi* has been treated since McDunnough (1938) as a subspecies of *C. californica* Edwards, *C. edwardsi* falls within the normal range of geographic variation of *C. californica*. Type Locality: Vancouver Island, [British Columbia, Canada].

***Catocala relicta* syn. *elda* Behrens, syn. n.**
Fig. 15 (lectotype)

*Catocala elda* Behrens, 1887: 199
*Catocala relicta* race *elda*; Barnes and McDunnough 1918: 20
*Catocala relicta* ssp. *elda*; McDunnough 1938: 116
*Catocala relicta* ssp. *elda*; Franclemont and Todd 1983: 128

**Type material.** *Catocala elda*: the original description states "Three examples. Portland, Oregon." A female type is at the AMNH, and is designated as **lectotype** to clarify application of the name *elda*. The lectotype bears the labels "No. 11745 / Collection / Hy. Edwards.", "Type / No. / A.M.N.H.", "Catocala / elda Hy. Edw. / Type", "Beutenmuller – Edwards / types A.M.N.H. Bulletin / IV p. 192. – 1892 / gives: C. elda Behrens / 1 ♀, Portland Oregon. / This is presumably one / of three spec. referred to in O.D. / 14.VIII.41 W. P. Comstock." Beutenmüller (1897: 17) noted "last summer Mr. Doll raised a single specimen [of *elda*] from a larva found on Long Island, N.Y. It is, without doubt, nothing more than a gray variety of *C. relicta*. Mr. Palm already called attention to this fact (Journ. N. Y. Entomological Soc., I, p. 21.)." Barnes and McDunnough stated (1918: 20) that *elda* was "at best a mere geographical race found on the Pacific Coast from British Columbia to Oregon… it is apparently best defined on Vancouver Island, B.C., for specimens before us from the interior of Washington State can scarcely be separated from *phrynia*." Since we have also seen specimens referable to *elda* from other eastern North American localities, we place *C. elda* as a synonym of *C. relicta* Walker, [1858]. Type Locality: Portland, Oregon, [USA].

***Catocala californica* syn. *elizabeth* Cassino, syn. n.**

*Catocala elizabeth* Cassino, 1918a: 53
*Catocala californica* ssp. *elizabeth*; McDunnough 1938: 116

*Catocala californica* ssp. *elizabeth*; Franclemont and Todd 1983: 128

**Type material.** *Catocala elizabeth*: holotype ♀ [USNM, examined]. The name *elizabeth* has been treated since McDunnough (1938) as a subspecies of *C. californica* Edwards, 1864. However, the type of *C. elizabeth* falls within the normal range of geographic variation of *C. californica*. Type Locality: Truckee, Calif[ornia, USA].

### *Catocala junctura* syn. *elsa* Beutenmüller, syn. n.

*Catocala elsa* Beutenmüller, 1918: 62
*Catocala elsa*; McDunnough 1938: 116
*Catocala elsa*; Franclemont and Todd 1983: 129

**Type material.** *Catocala elsa*: holotype ♀ [USNM, examined]. The name *elsa* has been treated since McDunnough (1938) as a full species. However, the type of *C. elsa* is a typical specimen of the widespread and morphologically variable *C. junctura* Walker, [1858]. Type Locality: Prescott, Arizona, [USA].

### *Catocala californica* syn. *erichi* Brower, syn. n.

*Catocala erichi* Brower, 1976
*Catocala erichi*; Franclemont and Todd 1983: 129

**Type material.** *Catocala erichi*: holotype ♂ [USNM, examined]. Brower's (1976: 37) brief diagnosis stated that *C. erichi* was "well separated from *francisca* Hy. Edwards, and from the more northern complex of *mariana*, Hy. Edwards, *edwardsi* Kuznesov and *eldoradensis* Beutenmüller. Larvae of *erichi* (named for the chief collector), two broods, lost in the last instar the dark brown patch on the abdominal hump, while larvae of *francisca* kept their patch." Our rearing work and comparison of types indicate that *C. francisca* H. Edwards, 1880 is conspecific with *C. hermia* H. Edwards, 1880, not *C. californica* Edwards, 1864; and that *C. erichi* is an infrapopulational form of *C. californica*. Specimens referable to *C. erichi* occur sporadically throughout the geographic range of *C. californica*, but are most prevalent in the mountains of southern California. The larval character cited by Brower varies both geographically as well as within single broods of *C. hermia* and *C. californica*, and as Johnson and Walter (1984) more accurately reported, "[the] oblique, lateral patch on A5 and A6 [in *erichi* is] inconspicuous" i.e., not "lost" as stated by Brower. Type Locality: Green Valley Creek, San Bernardino M[oun] t[ain]s, Calif[ornia, USA].

***Catocala neogama* ssp. *euphemia* Beutenmüller, stat. n.**
Fig. 16 (lectotype)

*Catocala euphemia* Beutenmüller, 1907: 938
*Catocala euphemia*; Barnes and McDunnough 1918: 16
*Catocala euphemia*; McDunnough 1938: 115
*Catocala euphemia*; Franclemont and Todd 1983: 128

**Type material.** *Catocala euphemia*: the original description indicates types at the "American Entomological Society, American Museum of Natural History, and Brooklyn Institute of Art and Science." A male type is at the AMNH, and is designated as **lectotype** to clarify application of the name *euphemia*. The lectotype bears the labels "Carr Canyon / Huachuca Mts. / Cochise Co. Ariz.", "H. Skinner / August 1905", "Type / No. / A.M.N.H.", "Catocala / euphemia / Type Beuten." Barnes and McDunnough (1918:16) noted that *C. euphemia* could "be merely a southwestern race of *neogama* (J. E. Smith, 1797) but as there is some slight difference shown in the male claspers, we treat it as a species until the larval history is known." At the same time, they described *C. loretta* from south-central Texas as a new race that "would appear to be intermediate between *neogama* and *euphemia*," and suggested that the name *euphemia* be limited to the material from the Huachuca Mountains, Arizona, as has been done above. Although specimens of *C. euphemia* from Arizona and New Mexico are normally separable from specimens of *C. neogama* from the midwest and eastern United States, these two blend in the southcentral United States, particularly in Oklahoma and Texas; specimens referable to *loretta* mostly manifest toward the southern end of this blend. We have successfully reared larvae ex ovis from several broods of Arizona *C. euphemia* and eastern *C. neogama*, and have collected and reared many wild larvae of both taxa from various species of *Juglans*; we have found no substantial differences between these larvae. Three fluid preserved larvae of *C. loretta* at PMNH, collected by R. Kendall on *Juglans microcarpa* Berl. in Uvalde County, Texas, are likewise indistinguishable from larvae of *C. neogama* and *C. euphemia*. Accordingly, we treat *C. euphemia* as a subspecies of *C. neogama* (J. E. Smith, 1797). We refer material from Arizona, New Mexico, and extreme western Texas to *C. neogama euphemia*, and all other material to *C. n. neogama* (for analysis of *C. loretta* Barnes & McDunnough, 1918 see its entry below). Type Locality: hereby restricted to Carr Canyon, Huachuca M[oun]t[ain]s, Cochise Co[unty], Arizona [USA] on the basis of the lectotype labels.

***Catocala hermia* ssp. *francisca* H. Edwards, stat. n.**
Fig. 17 (lectotype)

*Catocala mariana* var. *francisca* H. Edwards, 1880b: 57
*Catocala francisca*; Barnes and McDunnough 1918: 25

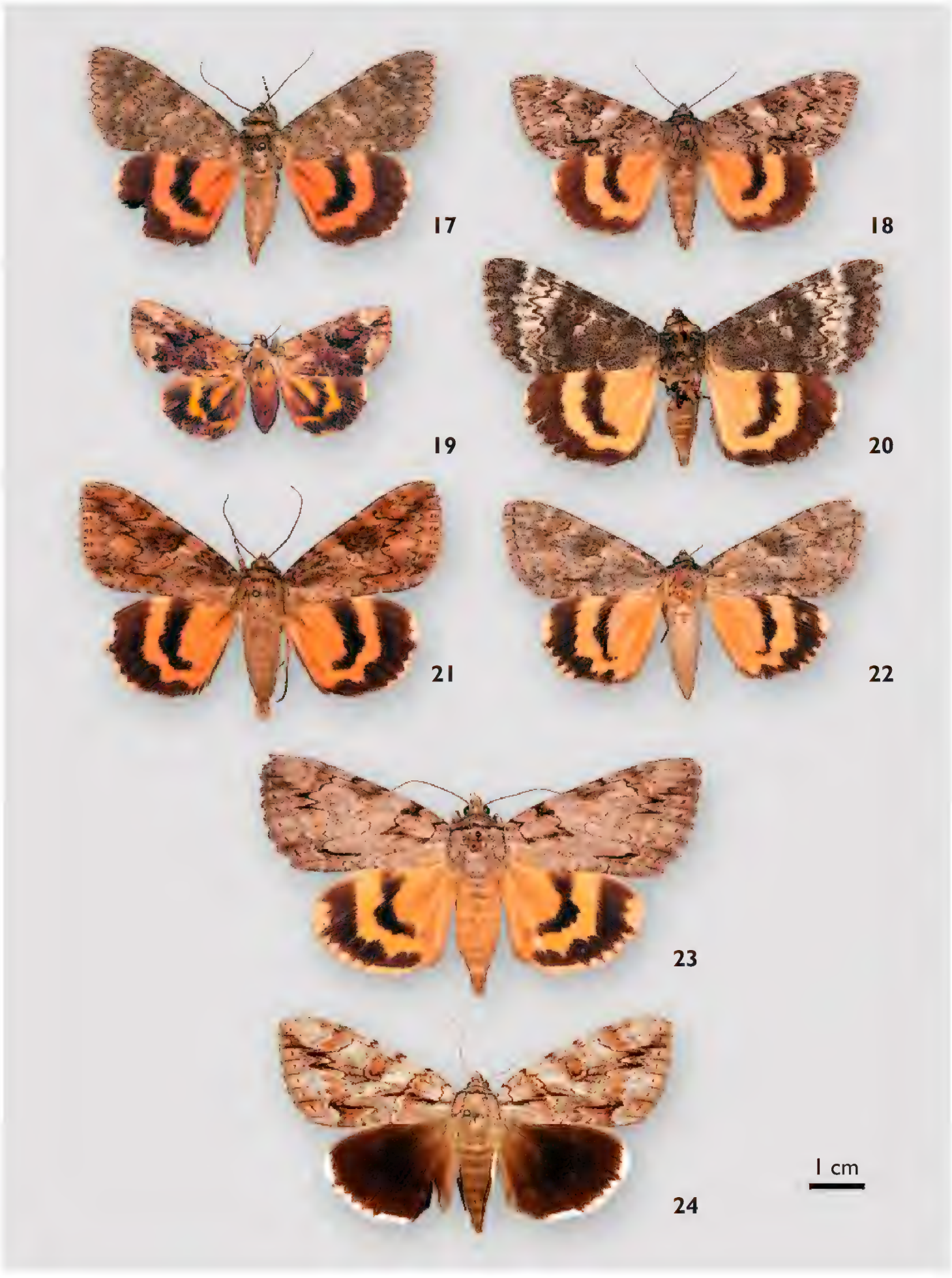
*Catocala francisca*; McDunnough 1938: 116
*Catocala francisca*; Franclemont and Todd 1983: 128

**Type material.** *Catocala mariana* var. *francisca*: The original description states "Humboldt Co., Cal. 2 ♂. Type, coll. Hy. Edwards." Beutenmüller (1892: 191) lists the *C. francisca* types as being at the AMNH, and a male type is there but bears Mendocino County, California locality labels. At the USNM is a male labeled "Type 2" [examined], also from Mendocino County. Although the county on these labels conflicts with the original description, Barnes and McDunnough (1918: 24-25) have already noted that errors in locality data do occur with type specimens of the dark-forewinged western *Catocala*. Mendocino and Humboldt counties are adjacent to one another, and the county indicated on the label is the only information we have that might otherwise disqualify the two aforementioned *C. francisca* males as syntypes. With deference to Beutenmüller and Barnes and McDunnough's judgments, we consider it likely that a mislabeling occurred, and designate the AMNH male as **lectotype** to clarify application of the name *francisca*. The lectotype bears the labels "Mendocino Co./California", "7299", "No. 11889 / Collection / Hy. Edwards.", "Type / No. / A.M.N.H.", "Cat. mariana / v. francisca / Type. Hy. Edw." From rearing work and analysis of museum specimens, we have concluded that *C. francisca* is neither a full species nor conspecific with *C. californica* Edwards, 1864 (= *C. mariana* Strecker, 1874), but rather is a coastal Californian subspecies of *C. hermia* H. Edwards, 1880 with uniform, dark greenish-black forewings. Type Locality: hereby amended to Mendocino Co[unty], California, [USA] on the basis of the lectotype label.

***Catocala faustina* ssp. *allusa* syn. *frenchii* Poling, syn. rev.**
Fig. 18 (lectotype)

*Catocala frenchii* Poling, 1901: 125
*Catocala allusa* syn. *frenchi*; Barnes and McDunnough 1918: 22
*Catocala allusa* syn. *frenchi*; McDunnough 1938: 116
*Catocala allusa* syn. *frenchi*; Franclemont and Todd 1983: 128

**Type material.** *Catocala frenchii*: the original description states "two examples, one in collection of G. H. French, the other in the collection of O. C. Poling." A male type is at the USNM, and is designated as **lectotype** to clarify application of the name *frenchii*. The lectotype bears the labels "N. Westminster, / 1900 B.C. / Poling.", "Frenchii / Type", "Catocala / frenchii / Poling / Type.", "Barnes / Collection." Type Locality: New Westminster, B[ritish] C[olumbia], Canada.




**Figures 17–24.** Type specimens of *Catocala*. **17** lectotype, *C. francisca* H. Edwards, 1880 **18** lectotype, *C. frenchii* Poling, 1901 **19** lectotype, *C. gisela* Meyer, 1880 **20** neotype, *C. grotiana* Bailey, 1879 **21** neotype, *C. irene* Behr, 1870 **22** lectotype, *C. jessica* Strecker, 1877 **23** lectotype, *C. loretta* Barnes & McDunnough, 1918 **24** lectotype, *C. luctuosa* Hulst, 1884.

***Catocala micronympha* syn. *gisela* Meyer**
Fig. 19 (lectotype)

*Catocala gisela* Meyer, 1880: 96
*Catocala micronympha* syn. *gisela*; Barnes and McDunnough 1918: 43
*Catocala micronymha* syn. *gisela*; McDunnough 1938: 118
*Catocala micronympha* syn. *gisela*; Franclemont and Todd 1983: 129

**Type material.** *Catocala gisela*: the original description states "One specimen in my collection, and another in Mr. Fr. Tepper's of Brooklyn." A female type is at the BMNH, and is designated as **lectotype** to clarify application of the name *gisela*. The lectotype bears the labels "Catocala / gisela ♂ / Type", "Catocala / gisela ♀." Type Locality: Georgia, [USA].

***Catocala grotiana* Bailey**
Fig. 20 (neotype)

*Catocala grotiana* Bailey, 1879: 21
*Catocala grotiana*; Barnes and McDunnough 1918: 26
*Catocala grotiana*; McDunnough 1938: 116
*Catocala grotiana*; Franclemont and Todd 1983: 129

**Type material.** *Catocala grotiana*: the original description states "My specimen is a ♂ in good condition, and was taken in Colorado." We have been unable to locate a specimen labeled as type, and the Bailey collection is apparently lost. Although usage of the name *grotiana* has been largely consistent during the last century, since the name refers to a member of the taxonomically difficult and variable western Nearctic species, we designate a female from the AMNH as **neotype** to clarify application of the name *grotiana*. The neotype bears the labels "Colorado.", "No. 12652 / Collection / Hy. Edwards.", "Edw. Coll.", "Catoc. / grotiana / Bailey." Type Locality: remains Colorado, [USA] on the basis of the neotype labels.

***Catocala semirelicta* ssp. *hippolyta* Strecker, stat. n.**

*Catocala hippolyta* Strecker, 1874: 99
*Catocala hippolyta*; Barnes and McDunnough 1918: 30
*Catocala hippolyta*; McDunnough 1938: 116
*Catocala hippolyta*; Franclemont and Todd 1983: 129

**Type material.** *Catocala hippolyta*: lectotype ♂ [FMNH, examined], designated by Gall and Hawks (1990: 10). Barnes and McDunnough (1918: 30) stated "the species is only

known from the Coast Range of California extending from Sonoma County to Los Angeles County." Although *C. hippolyta* has been treated as an endemic coastal Californian species, it in fact comes into contact with *C. semirelicta* Grote, 1874 along the eastern and northern edges of its geographic range in the Sierra Nevada mountains, where the two blend into one another. Moreover, during the past several decades, Paul and Sandy Russell have collected from one locality in the Santa Barbara foothills a series of *C. hippolyta* that contains specimens indistinguishable from typical *C. semirelicta*. We thus feel the observed geographic variation in *C. hippolyta* and *C. semirelicta* is more indicative of two subspecies. Type Locality: San Mateo County, California, [USA].

***Catocala irene* Behr**
Fig. 21 (neotype)

*Catocala irene* Behr, 1870: 24
*Catocala irene*; Barnes and McDunnough 1918: 22
*Catocala irene*; McDunnough 1938: 116
*Catocala irene*; Franclemont and Todd 1983: 128

**Type material.** *Catocala irene*: the original description states "Ft. Tejon, one specimen." Smith (1893: 343) indicated the *irene* type was in Henry Edwards' collection, and Barnes and McDunnough stated (1918: 22): "According to Hy. Edwards, who had opportunities of examining the type specimen (since destroyed)…; a specimen of this form, marked 'true to type' exists in the Hy. Edwards' Collection…" Reiff (1920: 64) added: "Without making any comments I may mention that I have from the old Worthington collection a specimen without locality label and marked 'Irene type' in apparently Strecker's handwriting." Henry Edwards' specimen is at the AMNH, and Reiff's specimen is at the MCZ. We have not been able to locate another specimen that is unquestionably the *C. irene* holotype. Reiff's MCZ specimen could be the holotype, since what we consider to be the holotype of *C. zoe* Behr, 1870 is in the Strecker collection at the FMNH, and it seems likely that Behr's *Catocala* types resided at some juncture with Strecker (see Gall and Hawks 1990). However, since we cannot prove the MCZ specimen is the holotype, and the name refers to a member of the taxonomically difficult and variable western Nearctic species, we give precedence to the AMNH specimen compared to the type, and designate it as **neotype** to clarify application of the name *irene*. The neotype bears the labels "Mendocino / California.", "3477", "No. 11896 / Collection / Hy. Edwards.", "True to type. / irene / Behr." Type Locality: hereby amended to Mendocino, California, [USA] on the basis of the neotype locality label.

***Catocala jessica* H. Edwards**
Fig. 22 (lectotype)

*Catocala jessica* H. Edwards, 1877: 23

*Catocala jessica*; Barnes and McDunnough 1918: 29
*Catocala jessica*; McDunnough 1938: 116
*Catocala jessica*; Franclemont and Todd 1983: 129

**Type material.** *Catocala jessica*: the original description states "1 ♀, 1 ♂, Havilah, Kern Co., Mr. R. H. Stretch. (Coll. Hy. Edw., No. 6,648)." These two types are at the AMNH, the female being a specimen of *C. jessica* and the male a specimen of *C. junctura* Walker [1858]. The female is designated as **lectotype** to clarify application of the name *jessica*. The lectotype bears the labels "Havilah / California.", "6648", "No. 12651 / Collection / Hy. Edwards.", "Type / No. / A.M.N.H.", "Cat. / var. jessica. Type. / Hy. Edw.", "Catocala / jessica / Hy. Edws." Type Locality: Havilah, Kern Co[unty], California, [USA].

***Catocala neogama* syn. *loretta* Barnes & McDunnough, syn. n.**
Fig. 23 (lectotype)

*Catocala neogama* race *loretta* Barnes & McDunnough, 1918: 16
*Catocala neogama* ssp. *loretta*; McDunnough 1938: 115
*Catocala neogama* ssp. *loretta*; Franclemont and Todd 1983: 128

**Type material.** *Catocala neogama* race *loretta*: the original description lists 4 males and 3 females from several Texas localities, and a male type from the USNM is designated as **lectotype** to clarify application of the name *loretta*. The lectotype bears the labels "Black Jack / Spgs, Texas", "C. neogama / v. lucetta [sic] / Type B+McD", "Barnes / Collection." We noted above under the entry for the name *euphemia* that the larvae of *C. loretta* do not differ appreciably from those of both *C. n. neogama* and *C. n. euphemia*. A broad blend zone between *C. n. neogama* and *C. n. euphemia* exists in the southcentral United States, and specimens matching *C. loretta* occur throughout this zone, mostly in Texas. We therefore place *C. loretta* as a synonym of *C. n. neogama* (J. E. Smith, 1797). Type Locality: hereby restricted to Black Jack Sp[rin]gs, Texas, [USA] on the basis of the lectotype labels.

***Catocala luctuosa* Hulst, stat. rev.**
Fig. 24 (lectotype)

*Catocala luctuosa* Hulst, 1884: 53
*Catocala retecta* syn. *luctuosa*; Barnes and McDunnough 1918: 13
*Catocala retecta* ssp. *luctuosa*; McDunnough 1938: 115
*Catocala retecta* ssp. *luctuosa*; Franclemont and Todd 1983: 128

**Type material.** *Catocala luctuosa*: the original description does not state the number of types. Four types are at the AMNH, and a male is designated as **lectotype** to clarify ap-

plication of the name *luctuosa*. The lectotype bears the labels "Ind.", "Collection / GD-Hulst", "Catocala / luctuosa / Type Hulst." Although Hulst described *C. luctuosa* as a distinct species, the name has been treated in the literature as a synonym or subspecies of *C. retecta* Grote, 1872. Gall (1991) established that *C. luctuosa* and *C. retecta* breed true, and that the adult morphologies are consistently distinct. Although *C. luctuosa* is encountered more commonly than *C. retecta* in the southcentral United States, the area of sympatry between the two is extensive and includes most of the geographic range of *C. luctuosa*. Accordingly, we reinstate *C. luctuosa* to the rank of species. Type Locality: hereby restricted to Ind[iana, USA] on the basis of the lectotype labels.

***Catocala maestosa* Hulst**
Fig. 25 (lectotype)

*Catocala maestosa* Hulst, 1884: 53
*Catocala maestosa*; Barnes and McDunnough 1918: 14
*Catocala maestosa*; McDunnough 1938: 115
*Catocala maestosa*; Franclemont and Todd 1983: 128

**Type material**. *Catocala maestosa*: the name *maestosa* was proposed as a replacement name for *C. viduata* Guenée, 1852, which was based on a misidentification of *Phalaena vidua* J. E. Smith 1797. Two of Hulst's types are at the AMNH, and a male is designated **lectotype** to clarify application of the name *maestosa*. The lectotype bears the labels "Tex.", "Collection / GDHulst", "Catocala / maestosa / Type Hulst." Type Lolcality: Tex[as, USA].

***Catocala praeclara* ssp. *manitoba* Beutenmüller, stat. n.**
Fig. 26 (lectotype)

*Catocala manitoba* Beutenmüller, 1908: 54
*Catocala manitoba*; Barnes and McDunnough 1918: 41
*Catocala manitoba*; McDunnough 1938: 118
*Catocala manitoba*; Franclemont and Todd 1983: 129

**Type material.** *Catocala manitoba*: the original description states "Types. -- Collections: American Museum of Natural History, Rutgers College, and George J. Keller." There are seven types at the AMNH, and a male is designated as **lectotype** to clarify application of the name *manitoba*. The lectotype bears the labels "Cartwright / Manitoba, Canadian / E. F. Heath / VIII 22 07", "Type / No. / A.M.N.H.", "Catocala / manitoba / Beuten." Beutenmüller considered *C. manitoba* closely related to *C. praeclara* Grote & Robinson, 1866, and Barnes and McDunnough (1918: 41) felt this "duller and darker-colored form" might "merely be a geographical race" of *praeclara*.

**Figures 25–32.** Type specimens of *Catocala*. **25** lectotype, *C. maestosa* Hulst, 1884 **26** lectotype, *C. manitoba* Beutenmüller, 1908 **27** lectotype, *C. miranda* H. Edwards, 1881 **28** lectotype, *C. nebraskae* Dodge, 1875 **29** lectotype, *C. nerissa* H. Edwards, 1880 **30** lectotype, *C. nevadensis* Beutenmüller, 1907 **31** lectotype, *C. nuptula* Walker, [1858] **32** lectotype, *C. nurus* Walker, [1858].

Beutenmüller described the forewings of *C. manitoba* as generally more concolorous and less lustrous than *C. praeclara*, with a reduced basal dash "scarcely extending to the middle of the basal area, sometimes absent" (a basal dash is a prominent characteristic of eastern *C. praeclara* populations). At that time, there was an apparent geographic disjunction between *C. manitoba*, which had only been recorded from Manitoba, and *C. praeclara*, which was known from the eastern coast of the USA and maritime Canada. Specimens referable to *C. manitoba* are now known from over forty localities in Alberta, Saskatchewan, Manitoba, Wisconsin, Minnesota, North Dakota, northern South Dakota and northern Wyoming. Similarly, populations of *praeclara* are now known from throughout the Great Lakes region, and then eastward to the seacoast. Individuals lacking a basal dash occur sporadically throughout the entire range of *C. praeclara* (more frequently in Michigan, Wisconsin and Minnesota, and the southern USA; see above under account for *C. charlottae* Brou, 1988), and the same individuals that lack the basal dash often have less iridescent and/or more concolorous forewings. A paratype of *C. manitoba* in the ANSP has a prominent basal dash and markings otherwise consistent with nominate *C. praeclara*, lacking only the lustrous scaling. Beutenmüller also stated that the two medial teeth of the postmedian forewing line were of nearly equal size in *C. praeclara*, and unequal in *C. manitoba*, but this distinction does not hold over the broader distributions now known. Because these several traits vary inconsistently over a widespread area, and covary to a certain extent, particularly in the geographic sampling gap of Beutenmüller's time, we treat *C. manitoba* as a subspecies of *C. praeclara* Grote & Robinson, 1866 Populations to the west and north of Minnesota most consistently and uniformly display the characteristics ascribed to *C. p. manitoba*. Type Locality: restricted to Cartwright, Manitoba, [Canada] on the basis of the lectotype labels.

***Catocala blandula* syn. *manitobensis* Cassino, syn. n.**

*Catocala blandula* var. *manitobensis* Cassino, 1918b: 81
*Catocala blandula* ssp. *manitobensis*; McDunnough 1938: 118
*Catocala blandula* ssp. *manitobensis*; Franclemont and Todd 1983: 129

**Type material.** *Catocala manitobensis*: the original description states "Holotype 1 ♂, 6 paratypes, in the collection of the author, Cartwright, Manitoba, July 17." A female at the USNM (USNM Type No. 44528) bears a label stating "manitobensis / Cass. / Type fide / Buchholz." Because Cassino often missexed his material, we see no reason to challenge Buchholz's judgment, and accept this specimen as the holotype by original designation. Cassino tabulated several characteristics supposedly distinguishing *C. m. manitobensis* from nominate *C. blandula* Hulst, 1884. On the dorsal forewing these included: a darker and more distinct postmedian band; a light to absent brown scaling distad from the postmedian band; and a lighter and bluish ground color, such that "the whole effect of the superiors is a bluish tint quite unlike that of *blandula*, the scales of

which are more brownish." We have examined specimens of *C. m. manitobensis* (including paratypes) and nominate *C. blandula* from across the Nearctic, and find that the characteristics ascribed to *C. m. manitobensis* occur sporadically throughout the species' entire geographic range, especially in females, and see little merit in retaining the name *manitobensis*. Exemplary localities where specimens often show *manitobensis* characteristics include the vicinity of Chicago, Illinois, and the eastern seaboard of Maine and maritime Canada; the same characteristics also appear regularly in what we presently consider to be *C. blandula* populations from lowland coastal areas in the southeastern USA (e.g., notably around Gainesville, Florida). These lowland *C. blandula* populations are among the most morphologically variable known: some Floridian specimens (especially females) are nearly identical to types of *C. manitobensis*, whereas others have the entire forewing pattern obscured by brownish black, and numerous intergrades occur. In many respects, the extreme variation in these southeastern *C. blandula* populations is analogous to the extreme infrapopulational forms of both *C. connubialis* Guenée, 1852 and *C. crataegi* Saunders, 1876 seen from the same geographic region. Type Locality: Cartwright, Manitoba, [Canada].

### ***Catocala junctura*** **syn.** ***margherita*** **Beutenmüller, syn. n.**

*Catocala stretchi* var. *margherita* Beutenmüller, 1918: 65
*Catocala stretchi* var. *margherita*; McDunnough 1938: 116
*Catocala stretchi* var. *margherita*; Franclemont and Todd 1983: 129

**Type material.** *Catocala margherita*: holotype ♂ [USNM, examined]. The holotype of *margherita* is a specimen of *junctura* Walker, [1858] with a thin black median hindwing band that is prominently curved basally. The name *margherita* has no definable geographic basis, as similar specimens occur in differing frequencies within populations of *C. junctura* throughout the western USA. Type Locality: Mendocino Co[unty], California, [USA].

### ***Catocala briseis*** **syn.** ***minerva*** **Cassino, syn. n.**

*Catocala minerva* Cassino, 1917: 63
*Catocala briseis* syn. *minerva*; Barnes and McDunnough 1918: 26
*Catocala briseis* ssp. *minerva*; McDunnough 1938: 116
*Catocala briseis* ssp. *minerva*; Franclemont and Todd 1983: 129

**Type material.** *Catocala minerva*: holotype ♂ [USNM, examined]. The name *minerva* has been treated for many years as a subspecies of *C. briseis* Edwards, 1864, but *C. minerva* is a lighter color form of *C. briseis* that occurs regularly throughout much of the western geographic range of the species. Type Locality: Deer Creek, Provo Canyon, Utah, [USA].

***Catocala miranda* H. Edwards**
Fig. 27 (lectotype)

*Catocala miranda* H. Edwards, 1881: 118
*Catocala miranda*; Barnes and McDunnough 1918: 39
*Catocala miranda*; McDunnough 1938: 117
*Catocala miranda*; Franclemont and Todd 1983: 129

**Type material.** *Catocala miranda*: the original description states "Washington, D. C. Type. Coll. Hy. Edwards." A male type is at the AMNH, and is designated as **lectotype** to clarify application of the name *miranda*. The lectotype bears the labels "Washington / D.C." "No. 11725 / Collection / Hy. Edwards" "Type / No. / A.M.N.H." "Catocala / miranda / Type. Hy. Edw." Type Locality: Washington, D[istrict of] C[olumbia, USA].

***Catocala luciana* syn. *nebraskae* Dodge**
Fig. 28 (lectotype)

*Catocala nebraskae* Dodge, 1875: 2
*Catocala luciana* syn. *nebraskae*; Barnes and McDunnough 1918: 21
*Catocala luciana* syn. *nebraskae*; McDunnough 1938: 116
*Catocala luciana* syn. *nebraskae*; Franclemont and Todd 1983: 128

**Type material.** *Catocala nebraskae*: the original description does not specify the number of types. A female type is at the USNM, and is designated as **lectotype** to clarify application of the name *nebraskae*. The lectotype bears the labels "36212", "Type / No. 4698 / U.S.N.M.", "Catocala nebraskae. Type Spec.m / Glencoe, Dodge Co. Nebr. / Coll. G. M. Dodge." Type Locality: Glencoe, Dodge County, Nebraska, [USA].

***Catocala lineella* syn. *nerissa* H. Edwards, syn. rev.**
Fig. 29 (lectotype)

*Catocala nerissa* H. Edwards, 1880: 61
*Catocala amica* form *nerissa*; Barnes and McDunnough 1918: 45
*Catocala amica* syn. *nerissa*; McDunnough 1938: 118
*Catocala amica* syn. *nerissa*; Franclemont and Todd 1983: 129

**Type material.** *Catocala nerissa*: the original description states "Type, coll. B. Neumoegen." At the AMNH is a *nerissa* labeled "Type" and at the USNM is another *nerissa* labeled "Type 2." The AMNH type is a specimen of *C. lineella*

Grote, 1872 and the USNM type is a specimen of *C. jair* Strecker, 1897. The AMNH male is designated as **lectotype** to clarify application of the name *nerissa*. The name *nerissa* thereby attaches to *C. lineella*, which itself was reinstated to species status by Gall (1990). The lectotype bears the labels "S. West / Texas.", "No. 11784 / Collection / Hy. Edwards.", "Cat. amica / var. nerissa. / Type Hy. Edw." Type Locality: hereby restricted to S[outh] West Texas, [USA] on the basis of the lectotype labels.

***Catocala semirelicta* ssp. *semirelicta* syn. *nevadensis* Beutenmüller, syn. n.**
Fig. 30 (lectotype)

*Catocala nevadensis* Beutenmüller, 1907: 935
*Catocala nevadensis*; Barnes and McDunnough 1918: 28
*Catocala nevadensis*; McDunnough 1938: 116
*Catocala nevadensis*; Franclemont and Todd 1983: 129

**Type material.** *Catocala nevadensis*: the original description states "Three males and five females, American Museum of Natural History." Two types are at the AMNH, and a female is designated as **lectotype** to clarify application of the name *nevadensis*. The lectotype bears the labels "27", "Type / No. / A.M.N.H.", "nevadensis from / which ♀ plate / was drawn / for mono.", "Catocala / nevadensis / Beut." The lectotype of *C. nevadensis* is a specimen of the widespread and morphologically variable *C. semirelicta* Grote, 1874 with strong black markings on the forewing. Such specimens occur more commonly in the western USA, but have no definable geographic basis. Type Locality: hereby restricted to Lake Tahoe, Sierra Nevada [Mountains], California, [USA] on the basis of the lectotype labels.

***Catocala grynea* syn. *nuptula* Walker**
Fig. 31 (lectotype)

*Catocala nuptula* Walker, [1858]: 1205
*Catocala grynea* syn. *nuptula*; Barnes and McDunnough 1918: 40
*Catocala grynea* syn. *nuptula*; McDunnough 1938: 118
*Catocala grynea* syn. *nuptula*; Franclemont and Todd 1983: 129

**Type material.** *Catocala nuptula*: the original description states "a,b. North America. From Mr. Milne's collection." A female type is at the BMNH, and is designated as **lectotype** to clarify application of the name *nuptula*. The lectotype bears the labels "N. America / 39.-6.-19. / 1595", "N. America / 39.-6.-19.-1595", "Catocala / nuptula / Walk. Type." Type Locality: North America.

***Catocala amatrix* syn. *nurus* Walker**
Fig. 32 (lectotype)

*Catocala nurus* Walker, [1858]: 1195
*Catocala amatrix* syn. *nurus*; Barnes and McDunnough 1918: 32
*Catocala amatrix* syn. *nurus*; McDunnough 1938: 117
*Catocala amatrix* syn. *nurus*; Franclemont and Todd 1983: 129

**Type material.** *Catocala nurus*: the original description states "a-c. United States. Presented by E. Doubleday, Esq." A female type is at the BMNH, and is designated **lectotype** to clarify application of the name *nurus*. The lectotype bears the labels "New York / Doubleday / 46-110", "New York / 46-110 [and on the reverse:] Catocala / nurus ♀ / Walker Type." The name *nurus* Walker is a synonym of *C. amatrix* Hübner, [1813] and a homonym of *Noctua nurus* Hübner, 1822, which is itself a synonym of the Palearctic *C. elocata* (Esper, 1787). Type Locality: United States.

***Catocala alabamae* syn. *olivia* H. Edwards, syn. n.**

*Catocala olivia* H. Edwards, 1880a: 95
*Catocala olivia*; Barnes and McDunnough 1918: 41
*Catocala olivia*; McDunnough 1938: 118
*Catocala olivia*; Franclemont and Todd 1983: 129

**Type material.** *Catocala olivia*: holotype ♂ [USNM, examined]. *Catocala olivia* has previously been treated as a full species, but, as suggested by Barnes and McDunnough (1918: 41), it is an extreme infrapopulational variant of *C. alabamae* Grote, 1875 with a large black basal forewing patch. We have seen intergrades between *C. olivia* and typical *C. alabamae* from several localities in Texas, Arkansas and Oklahoma, and J. Slotten (in litt.) has reared both *C. olivia* and typical *C. alabamae* ex ovis from a female from eastern Texas. The color form *parvula* W. H. Edwards, 1864 of *C. minuta* Edwards, 1864 is a parallel to the color form *olivia* of *C. alabamae*. Type Locality: S[outh] W[est] Texas, [USA].

***Catocala meskei* syn. *orion* McDunnough, syn. n.**

*Catocala orion* McDunnough, 1922: 288
*Catocala meskei* ssp. *orion*; McDunnough 1938: 116
*Catocala meskei* ssp. *orion*; Franclemont and Todd 1983: 129

**Type material.** *Catocala orion*: holotype ♂ [CNC, examined]. McDunnough (1922: 288) considered that specimens of *C. orion* "approach closest to *meskei* Grt., and may

eventually prove to be a race of this species." We have examined the type series at the CNC, and consider that *C. orion* falls within the normal range of geographic variation of *C. meskei* Grote, 1873. Type Locality: Lethbridge, Al[ber]ta, [Canada].

### ***Catocala badia* ssp. *coelebs* syn. *phoebe* Hulst**

Fig. 33 (lectotype)

*Catocala badia* var. *phoebe* Hulst, 1884: 50
*Catocala badia* var. *phoebe*; Barnes and McDunnough 1918: 8
*Catocala badia* syn. *phoebe*; McDunnough 1938: 115
*Catocala coelebs* syn. *phoebe*; Franclemont and Todd 1983: 128

**Type material.** *Catocala phoebe*: the name *phoebe* was proposed by Hulst as "A form intermediate between *coelebs* and *badia*... Found in Mass. and N. Hampshire." Since Hulst gave distinguishing characters and non-overlapping geographic localities for each of *C. badia* Grote & Robinson, 1866, *C. coelebs* Grote, 1874 and *C. phoebe*, the name *phoebe* was proposed in a subspecific context and is available. Hulst cited the name *phoebe* to "Hy. Edw. MSS," but Hulst's paper was published before Edwards' description appeared. Two females from Hy. Edwards' type lot are at the AMNH, and one is designated **lectotype** to clarify application of the name *phoebe* Hulst. The lectotype bears the labels "New Hampshire", "No. 11779 / Collection / Hy. Edwards.", "Type / No. / A.M.N.H." Type Locality: hereby restricted to New Hampshire, [USA] on the basis of the lectotype labels.

### ***Catocala badia* ssp. *coelebs* syn. *phoebe* H. Edwards**

Fig. 33 (lectotype)

*Catocala phoebe* n. var. H. Edwards, 1885: 125
*Catocala badia* var. *phoebe*; Barnes and McDunnough 1918: 8
*Catocala badia* syn. *phoebe*; McDunnough 1938: 115
*Catocala coelebs* syn. *phoebe* Franclemont and Todd 1983: 128

**Type material.** *Catocala phoebe*: H. Edwards listed seven specimens from New Hampshire in his description of *C. phoebe*. To clarify application of the name, the female lectotype of *C. phoebe* Hulst is also designated as **lectotype** of *C. phoebe* H. Edwards. The name *phoebe* H. Edwards, 1885 is a homonym of *C. phoebe* Hulst, 1884. Type Locality: New Hampshire, [USA].

### ***Catocala semirelicta* ssp. *semirelicta* syn. *pura* Hulst, syn. n.**

Fig. 34 (lectotype)

*Catocala pura* Hulst, 1880: 96

**Figures 33–40.** Type specimens of *Catocala*. **33** lectotype, *C. phoebe* Hulst, 1884 and *C. phoebe* H. Edwards, 1885 **34** lectotype, *C. pura* Hulst, 1880 **35** lectotype, *C. rosalinda* H. Edwards, 1880 **36** lectotype, *C. sancta* Hulst, 1884 **37** lectotype, *C. sheba* Cassino, 1919 **38** neotype, *C. stretchii* Behr, 1870 **39** neotype, *C. texanae* French, 1902 **40** lectotype, *C. titania* Dodge, 1900.

*Catocala pura*; Barnes and McDunnough 1918: 28
*Catocala pura*; McDunnough 1938: 116
*Catocala pura*; Franclemont and Todd 1983: 129

**Type material.** *Catocala pura*: the original description does not state the number of types. A male type is at the AMNH, and is designated **lectotype** to clarify application of the name *pura*. The lectotype bears the labels "♂", "Col.", "Collection / GDHulst", "Catocala

/ pura / Type Hulst." The lectotype of *C. pura* is a typical specimen of the widespread and morphologically variable *C. semirelicta* Grote, 1874.. Type Locality: Colorado, [USA].

***Catocala meskei* syn. *rosalinda* H. Edwards**
Fig. 35 (lectotype)

*Catocala rosalinda* H. Edwards, 1880b: 55
*Catocala meskei* syn. *rosalinda*; Barnes and McDunnough 1918: 26
*Catocala meskei* syn. *rosalinda*; McDunnough 1938: 116
*Catocala meskei* syn. *rosalinda*; Franclemont and Todd 1983: 129

**Type material.** *Catocala rosalinda*: the original description states "Type, coll. Dr. James S. Bailey." A male at the AMNH is labelled "Type 2." Beutenmüller (1892: 192) stated that the type of *C. rosalinda* was at the AMNH, and we presume this male to be the specimen to which he referred, since we have been unable to locate a specimen of *C. rosalinda* bearing simply a "Type" label. The AMNH male is designated as **lectotype** to clarify application of the name *rosalinda*. The lectotype bears the labels "New York. / Albany", "No. 11836 / Collection / Hy. Edwards.", "Type / No. / A.M.N.H.", "Catoc. Type 2 / rosalinda. / Hy. Edw." Type Locality: Albany, [New York, USA].

***Catocala connubialis* syn. *sancta* Hulst**
Fig. 36 (lectotype)

*Catocala sancta* Hulst, 1884: 38
*Catocala connubialis* syn. *sancta*; Barnes and McDunnough 1918: 44
*Catocala connubialis* syn. *sancta*; McDunnough 1938: 118
*Catocala connubialis* syn. *sancta*; Franclemont and Todd 1983: 129

**Type material.** *Catocala sancta*: the original description does not state the number of types. A male type is at the AMNH, and is designated as **lectotype** to clarify application of the name *sancta*. The lectotype bears the labels "Collection / GDHulst", "Catocala / sancta / Type Hulst." The name *sancta* was proposed as a replacement name for *C. connubialis* Guenée, 1852, which Hulst mistakenly thought was unavailable (see Gall and Hawks 2002b: 257–259 for detailed analysis of the name *connubialis*). Type Locality: East and South East [southeastern USA].

***Catocala hermia* ssp. *hermia* syn. *sheba* Cassino, syn. n.**
Fig. 37 (lectotype)

*Catocala sheba* Cassino, 1919: 99

*Catocala sheba*; McDunnough 1938: 116
*Catocala sheba*; Franclemont and Todd 1983: 128

**Type material.** *Catocala sheba*: the original description states "Types: 1 ♂, one ♀, paratypes 8 ♂s, 7 ♀s in the author's collection." A male is at the USNM, with correct locality and date information, and a label "C. new= / muni / Cassino." It also bears the following label by F. H. Benjamin: "Think this ♂ type / of sheba Cass. /...who says descr. / under diff. name / from that on / Type label / FHB." This male is designated **lectotype** to clarify application of the name *sheba*. In addition to the above two labels, the lectotype bears the labels "Jemez Springs / New Mex", "Sept 3", "Barnes / Collection." The lectotype of *C. sheba* is a typical specimen of the widespread and morphologically variable *C. hermia* H. Edwards, 1880. Type Locality: Jemez Springs, New Mexico, [USA].

### ***Catocala consors*** **syn.** ***sorsconi*** **Barnes & Benjamin, syn. n.**

*Catocala consors* race *sorsconi* Barnes & Benjamin, 1924: 174
*Catocala consors* ssp. *sorsconi*; McDunnough 1938: 115
*Catocala consors* ssp. *sorsconi*; Franclemont and Todd 1983: 128

**Type material.** *Catocala sorsconi*: holotype ♂ [USNM, examined]. Although Barnes and Benjamin discussed wing pattern characters supposedly differentiating *C. c. consors* (J. E. Smith, 1797) from their northern subspecies *C. s. sorsconi* (which they had named "mainly to correct... [Reiff's] error [in naming *pensacola*]"), these characters vary widely in large series of specimens from Texas through Florida. Because the variation is geographically inconsistent, we see little merit in retaining the name *sorsconi*. Type Locality: Maine, [USA].

### ***Catocala junctura*** **syn.** ***stretchii*** **Behr, syn. n.**

Fig. 38 (neotype)

*Catocala stretchii* Behr, 1870: 24
*Catocala stretchi*; Barnes and McDunnough 1918: 30
*Catocala stretchi*; McDunnough 1938: 116
*Catocala stretchi*; Franclemont and Todd 1983: 129

**Type material.** *Catocala stretchii*: the original description states "One specimen, collected by Mr. Stretch, at Virginia City." Barnes and McDunnough (1918: 30) stated: "The type of *stretchi* being lost, there only remains a specimen in the H. Edwards collection marked 'true to type'; this, however is from Havilah, Kern County." They compared this H. Edwards specimen to what they considered *C. stretchi* from Truckee, *C. portia*

H. Edwards, 1880 and *C. sierrae* Beutenmüller, 1897 and concluded that these three names referred to the same species (viz. *C. junctura* Walker [1858]). We have not been able to locate the *C. stretchii* type. Since the name refers to a member of the taxonomically difficult western Nearctic species, the female in the AMNH labeled true to type is designated as **neotype** to clarify application of the name *stretchii*. The neotype bears the labels "Havilah / California.", "7300", "No. 12646 / Collection / Hy. Edwards.", "Stretchii, / Behr. / True to type." The neotype of *C. stretchii* is a typical specimen of the widespread and morphologically variable *C. junctura* Walker, [1858]. Type Locality: hereby amended to Havilah, California, [USA] on the basis of the neotype labels.

***Catocala texanae* French**
Fig. 39 (neotype)

*Catocala texanae* French, 1902: 98
*Catocala texanae*; Barnes and McDunnough 1918: 29
*Catocala texanae*; McDunnough 1938: 117
*Catocala texanae*; Franclemont and Todd 1983: 129

**Type material.** *Catocala texanae*: French's original description states "Before closing this I want to speak of the Junctura group. The more I see of the Arizona specimens, the more satisfied I am that the Texan form is separate from both that occur in Arizona… The Texan form is a larger insect than either of the Arizona forms, of an even greenish gray, and may be known as Texanae." No types of *C. texanae* have been located in institutional collections, and French may never have labeled any specimens as such. Since the name refers to a member of the taxonomically difficult western Nearctic species, a female from PMNH (specimen #ENT 719311) is designated as **neotype** in order to clarify application of the name *texanae*. The neotype bears the labels "Uvalde Co / Texas / Stallings & Turner" "Catocala / texanae / French / Det. / A.E. Brower 1941." Type Locality: hereby amended to Uvalde Co[unty, Texas, USA] on the basis of the lectotype label.

***Catocala pretiosa* ssp. *texarkana* Brower, stat. n.**

*Catocala texarkana* Brower, 1976: 33
*Catocala texarkana*; Franclemont and Todd 1983: 129

**Type material.** *Catocala texarkana*: holotype ♂ [USNM, examined]. When he designated the lectotype for *C. pretiosa* Lintner, 1876, Schweitzer (1982) aptly noted "separation of *Catocala texarkana* from *C. pretiosa* is extremely difficult. At present, some specimens cannot be determined with certainty. The original description of *C. texarkana* does not contain explicit comparisons with related taxa, and I can find no constant differences between these two taxa." Even though Schweitzer had rather

limited specimen material available to him, especially from the southern Appalachians, he was able to find at least one specimen of *C. pretiosa* (from Massachusetts) that was indistinguishable from three topotypical *C. texarkana*. We have subsequently examined hundreds of specimens of *C. texarkana* from over fifty localities from Texas and Oklahoma through the midatlantic states (including Brower's types, and a morphologically variable series of several dozen topotypes in the CUIC), and find the minor differences between *C. pretiosa* and *C. texarkana* to be essentially as stated by Schweitzer, but with greater overlap and variability. These differences are best reflected by placing *C. texarkana* as a subspecies of *C. pretiosa* Lintner, 1876. Type Locality: Forestburg, Texas, [USA].

***Catocala alabamae* syn. *titania* Dodge, syn. n.**
Fig. 40 (lectotype)

*Catocala titania* Dodge, 1900: 472
*Catocala titania*; Barnes and McDunnough 1918: 42
*Catocala titania*; McDunnough 1938: 118
*Catocala titania*; Franclemont and Todd 1983: 129

**Type material.** *Catocala titania*: the original description does not state the number of types. A male type is at the USNM, and is designated as **lectotype** to clarify application of the name *titania*. The lectotype bears the labels "Bred. 6.8.99 / La Mo", "type C. TITANIA, Dodge", "C. titania. Dodge / Type. Feb. 1 1900 / G. M. Dodge", "Barnes / Collection." Barnes and McDunnough (1918: 42) felt that *C. titania* "may be merely a poorly marked race of *alabamae*." Although most specimens from Illinois and Missouri are referable to *C. titania* (even gray forewings with reduced maculation), both *C. titania* and *C. alabamae* and a wide range of intergrades (including its form *olivia*) occur in populations in Oklahoma, Arkansas and Texas. Specimens referable to *C. titania* are in the minority in populations along the Gulf Coast, and are apparently lacking in peninsular Floridian specimens, which are even larger and more strongly marked than typical *C. alabamae*. Because *C. titania* and *C. alabamae* can be found on an intrapopulational basis over a broad geographic area, we place *C. titania* as a synonym of *C. alabamae* Grote, 1875. Type Locality: Louisiana, Missouri, [USA].

***Catocala unijuga* Walker**
Fig. 41 (lectotype)

*Catocala unijuga* Walker, [1858]: 1194
*Catocala unijuga*; Barnes and McDunnough 1918: 27
*Catocala unijuga*; McDunnough 1938: 116

**Figures 41–45.** Type specimens of *Catocala*. **41** lectotype, *C. unijuga* Walker, [1858] **42** lectotype, *C. valeria* H. Edwards, 1880 **43** lectotype, *C. verecunda* Hulst, 1884 **44** lectotype, *C. violenta* H. Edwards, 1880 **45** lectotype, *C. werneri* Biederman, 1909.

*Catocala unijuga*; Franclemont and Todd 1983: 128

**Type material.** *Catocala unijuga*: the original description states "a. St. Martin's Falls, Albany River, Hudson's Bay. Presented by Dr. Barnston. b. United States. Presented by E. Doubleday, Esq. c. Canada. Presented by E. Doubleday, Esq." A male type is at the BMNH, and is designated **lectotype** to clarify application of the name *unijuga*. The lectotype bears the labels "New York / Doubleday / 46-110.", "New York / 46-110 [and on the reverse:] Catocala / unijuga / Type Walker." Type Locality: [North America].

***Catocala irene* syn. *valeria* H. Edwards, syn. n.**
Fig. 42 (lectotype)

*Catocala irene* var. *valeria* H. Edwards, 1880b: 56
*Catocala irene* race *valeria*; Barnes and McDunnough 1918: 22

*Catocala irene* ssp. *valeria*; McDunnough 1938: 116
*Catocala irene* ssp. *valeria*; Franclemont and Todd 1983: 128

**Type material.** *Catocala valeria*: the original description states "Types, coll. B. Neumoegen, Hy. Edwards." A female type is at the AMNH, and is designated **lectotype** to clarify application of the name *valeria*. The lectotype bears the labels "Arizona.", "7304", "No. 11897 / Collection / Hy. Edwards.", "Type / No. / A.M.N.H.", "Cat. irene. / var. valeria. / Type. Hy. Edw." The name *valeria* represents specimens of *C. irene* Behr, 1870 with light brown forewings with distinctive markings, and has no definable geographic basis. Type Locality: Arizona, [USA].

***Catocala hermia* ssp. *hermia* syn. *verecunda* Hulst, syn. n.**
Fig. 43 (lectotype)

*Catocala verecunda* Hulst, 1884: 45
*Catocala verecunda*; Barnes and McDunnough 1918: 21
*Catocala hermia* ssp. *verecunda*; McDunnough 1938: 116
*Catocala hermia* ssp. *verecunda*; Franclemont and Todd 1983: 128

**Type material.** *Catocala verecunda*: the original description states "Habitat, Montana. Taken in numbers by H. K. Morrison." Two female types are at the AMNH, and one is designated as **lectotype** to clarify application of the name *verecunda*. The lectotype bears the labels "♀", "Mon.", "Collection / GDHulst", "Catocala / verecunda / Type Hulst." The name *verecunda* has been treated as a subspecies of *C. hermia* H. Edwards, 1880 but *C. verecunda* falls within the normal pattern of variation seen in nominate *C. hermia*. Type Locality: Montana, [USA].

***Catocala violenta* H. Edwards**
Fig. 44 (lectotype)

*Catocala violenta* H. Edwards, 1880b: 58
*Catocala violenta*; Barnes and McDunnough 1918: 37
*Catocala violenta*; McDunnough 1938: 117
*Catocala violenta*; Franclemont and Todd 1983: 129

**Type material.** *Catocala violenta*: the original description states "M. B. Neumoegen, 6 examples, ♂, ♀. Type, coll. B. Neumoegen." A male type is at the AMNH, and is designated **lectotype** to clarify application of the name *violenta*. The lectotype bears the labels "South / Colorado", "7327", "No. 11846 / Collection / Hy. Edwards.", "Type / No. / A.M.N.H.", "Catocala / violenta Hy. Edw. / Type." Type Locality: southern Colorado, [USA].

***Catocala verrilliana* syn. *werneri* Biederman**
Fig. 45 (lectotype)

*Catocala werneri* Biederman, 1909: 76
*Catocala verrilliana* syn. *werneri*; Barnes and McDunnough 1918: 37
*Catocala verrilliana* syn. *werneri*; McDunnough 1938: 117
*Catocala verrilliana* syn. *werneri*; Franclemont and Todd 1983: 129

**Type material.** *Catocala werneri*: the original description does not state the number of types. A female type is at the USNM, and is designated as **lectotype** to clarify application of the name *werneri*. The lectotype bears the labels "Palmerlee / Ariz.", "Catocala / werneri / Type Biederman", "Photograph / Pl. X No. 1." Type Locality: Palmerlee, Huachuca Mountains, Arizona, [USA].

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## Appendix 1: Check List of the Nearctic *Catocala* Schrank, 1802

***C. abbreviatella*** Grote, 1872
***C. agrippina*** Strecker, 1874
*barnesii* French, 1900
***C. aholibah*** Strecker, 1874
*coloradensis* Beutenmüller, 1903
*ellenensis* Reiff, 1920
***C. alabamae*** Grote, 1875
*distincta* Schwarz, 1919
*olivia* H. Edwards, 1880, **syn. n.**
*titania* Dodge, 1900, **syn. n.**
***C. amatrix*** (Hübner, [1813])
*editha* W.H. Edwards, 1874
*hesseli* Sargent, 1976
*nurus* Walker, [1858] (preocc.)
*pallida* Barnes & McDunnough, 1918 (preocc.)
*selecta* Walker, [1858] (preocc.)
***C. amestris*** Strecker, 1874
*anna* Grote, 1874
*westcottii* Grote, 1878
***C. amica*** (Hübner, 1818)
*androphila* Guenée, 1852
*curvifascia* Brower, 1936
*melanotica* Reiff, 1916
*suffusa* Beutenmüller, 1903
***C. andromache*** H. Edwards, 1885
*wellsi* Johnson, 1983
***C. andromedae*** Guenée, 1852
*tristis* W.H. Edwards, 1864
***C. angusi*** Grote, 1876
*edna* Beutenmüller, 1907
*lucetta* French, 1882
***C. antinympha*** (Hübner, [1823])
*affinis* Westwood, 1837
*melanympha* Guenée, 1852
*multoconspicua* Reiff, 1919
*paranympha* (Drury, 1773) (preocc.)
***C. atocala*** Brou, 1985
***C. badia*** Grote & Robinson, 1866
a. ***badia*** Grote & Robinson, 1866
b. ***coelebs*** Grote, 1874
*phoebe* Hulst, 1884
*phoebe* H. Edwards, 1885 (preocc.)
***C. benjamini*** Brower, 1937
a. ***benjamini*** Brower, 1937
b. ***ute*** Peacock & Wagner, 2009
c. ***jumpi*** Hawks, 2010
d. ***mayhewi*** Hawks, 2010
***C. blandula*** Hulst, 1884
*manitobensis* Cassino, 1918, **syn. n.**
***C. briseis*** W.H. Edwards, 1864
*albida* Beutenmüller, 1907
*briseana* (Strand, 1913)
*clarissima* Beutenmüller, 1918
*minerva* Cassino, 1917, **syn. n.**
***C. caesia*** Hawks, 2010
***C. californica*** W.H. Edwards, 1864
*edwardsi* Kusnezov, 1903, **syn. n.**
*eldoradensis* Beutenmüller, 1907
*elizabeth* Cassino, 1918, **syn. n.**
*erichi* Brower, 1976, **syn. n.**
*mariana* Strecker, 1874 (preocc.)
*mariana* H. Edwards, 1875 (preocc.)
***C. californiensis*** Brower, 1976
***C. cara*** Guenée, 1852
***C. carissima*** Hulst, 1880, **stat. n.**
*sylvia* H. Edwards, 1880
***C. cerogama*** Guenée, 1852
*aurella* Fischer, 1885
*bunkeri* Grote, 1876
*eliza* Fischer, 1885
*ruperti* Franclemont, 1938
***C. chelidonia*** Grote, 1881
a. ***chelidonia*** Grote, 1881
b. ***occidentalis*** Hawks, 2010
c. ***uniforma*** Hawks, 2010
***C. clintonii*** Grote, 1864
***C. coccinata*** Grote, 1872
*chiquita* Bartsch, 1916
*circe* Strecker, 1876
*sinuosa* Grote, 1879
***C. concumbens*** Walker, [1858]
*diana* H. Edwards, 1880
*hillii* Grote, 1883
***C. connubialis*** Guenée, 1852
*broweri* J. Muller, 1960
*cordelia* H. Edwards, 1880
*pulverulenta* Brower, 1940
*sancta* Hulst, 1884
*virens* French, 1886
***C. consors*** (J.E. Smith, 1797)
*pensacola* Reiff, 1919
*sorsconi* Barnes & Benjamin, 1924, **syn. n.**
***C. crataegi*** Saunders, 1876
***C. dejecta*** Strecker, 1880
***C. delilah*** Strecker, 1874
*adoptiva* Grote, 1874
*calphurnia* H. Edwards, 1880

*umbella* Barnes & Benjamin, 1927
***C. desdemona*** H. Edwards, 1882
*ixion* Druce, 1890
*swetti* Barnes & Benjamin, 1927
*umbra* Barnes & Benjamin, 1927
*utahensis* Cassino, 1918
***C. dulciola*** Grote, 1881
***C. electilis*** Walker, [1858]
*cassandra* H. Edwards, 1875
*electilella* (Strand, 1913)
***C. epione*** (Drury, 1773)
*marginata* (Fabricius, 1775)
*marginella* (Fabricius, 1794)
***C. faustina*** Strecker, 1873
a. ***faustina*** Strecker, 1873
*carlota* Beutenmüller, 1897
*lydia* Beutenmüller, 1907
*rubra* Cassino, 1918
*zillah* Strecker, 1878
b. ***cleopatra*** Strecker, 1874
*barbara* Cassino, 1918
*caerulea* Beutenmüller, 1907, **syn. n.**
*cleopatra* H. Edwards, 1875 (preocc.)
*perdita* Strecker, 1874
*perdita* H. Edwards, 1875 (preocc.)
c. ***allusa*** Hulst, 1884, **stat. n.**
*frenchii* Poling, 1901, **syn. rev.**
***C. flebilis*** Grote, 1872
*carolina* Holland, 1903
***C. frederici*** Grote, 1872
***C. gracilis*** W.H. Edwards, 1864
*cinerea* Mayfield, 1922
*hesperis* Sargent, 1976
*lemmeri* Mayfield, 1923
*tela* (Strand, 1913)
***C. grisatra*** Brower, 1936
***C. grotiana*** Bailey, 1879
*georgeana* Beutenmüller, 1918
***C. grynea*** (Cramer, 1780)
*constans* Hulst, 1884
*nuptula* Walker, [1858]
***C. habilis*** Grote, 1872
*basalis* Grote, 1876
*denussa* Ehrman, 1893, **syn. rev.**
*depressans* Sargent, 1976
***C. hermia*** H. Edwards, 1880
a. ***hermia*** H. Edwards, 1880
*diantha* Beutenmüller, 1907
*ritana* Beutenmüller, 1918
*rosa* Beutenmüller, 1918
*sheba* Cassino, 1919, **syn. n.**
*verecunda* Hulst, 1884, **syn. n.**
*vesta* Barnes & McDunnough, 1918
b. ***francisca*** H. Edwards, 1880, **stat. n.**
***C. herodias*** Strecker, 1876
a. ***herodias*** Strecker, 1876
b. ***gerhardi*** Barnes & Benjamin, 1927
***C. ilia*** (Cramer, 1776)
a. ***ilia*** (Cramer, 1776)
*albomacula* Butler, 1892
*conspicua* Worthington, 1883
*decorata* Worthington, 1883
*duplicata* Worthington, 1883
*hulsti* Reiff, 1920
*iliana* (Strand, 1913)
*normani* Bartsch, 1916
*obsoleta* Worthington, 1883
*satanas* Reiff, 1920
*uxor* Guenée, 1852 (preocc.)
b. ***zoe*** Behr, 1870
*osculata* Hulst, 1884
*reiffi* Cassino, 1917
***C. illecta*** Walker, [1858]
*magdalena* Strecker, 1874
***C. innubens*** Guenée, 1852
*flavidalis* Grote, 1874
*hinda* French, 1881
*innubenta* (Strand, 1913)
*scintillans* Grote & Robinson, 1866
***C. insolabilis*** Guenée, 1852
*insolabilella* (Strand, 1913)
***C. irene*** Behr, 1870
*valeria* H. Edwards, 1880, **syn. n.**
*virgilia* H. Edwards, 1880
*volumnia* H. Edwards, 1880
***C. jair*** Strecker, 1897
***C. jessica*** H. Edwards, 1877
*babayaga* Strecker, 1884
***C. johnsoniana*** Brower, 1976
***C. judith*** Strecker, 1874
*levettei* Grote, 1874
***C. junctura*** Walker, [1858]
*arizonae* Grote, 1873
*arizonensis* (Strand, 1913)
*aspasia* Strecker, 1874
*augusta* H. Edwards, 1875, **syn. n.**
*elsa* Beutenmüller, 1918, **syn. n.**
*huachuca* Beutenmüller, 1918
*julietta* French, 1916
*juncturana* (Strand, 1913)
*juncturella* (Strand, 1913)
*juncturelloides* (Strand, 1913)
*margherita* Beutenmüller, 1918, **syn. n.**
*portia* H. Edwards, 1880

*roseata* Cassino, 1919
*sara* French, 1883
*sierrae* Beutenmüller, 1897
*stretchii* Behr, 1870, **syn. n.**
*walshii* W.H. Edwards, 1864
***C. lacrymosa*** Guenée, 1852
*albomarginata* Cassino, 1917
*emelia* H. Edwards, 1881
*evelina* French, 1881
*paulina* H. Edwards, 1880
*subviridis* Harvey, 1877
*zelica* French, 1881
***C. lincolnana*** Brower, 1976
***C. lineella*** Grote, 1872
*aurantiaca* Reiff, 1916
*nerissa* H. Edwards, 1880, **syn. rev.**
*novangliae* Reiff, 1916
***C. louiseae*** Bauer, 1965
***C. luciana*** Strecker, 1874
*luciana* H. Edwards, 1875 (preocc.)
*nebraskae* Dodge, 1875
*somnus* Dodge, 1881
***C. luctuosa*** Hulst, 1884, **stat. rev.**
***C. maestosa*** Hulst, 1884
*guenei* Grote, 1887
*moderna* Grote, 1900
*viduata* Guenée, 1852 missp.
***C. marmorata*** W.H. Edwards, 1864
***C. mcdunnoughi*** Brower, 1937
*browerarum* Johnson, 1983
***C. meskei*** Grote, 1873
*beaniana* Grote, 1878
*concolorata* McDunnough, 1922
*krombeini* Franclemont, 1938
*mescei* Hampson, 1913 missp.
*orion* McDunnough, 1922, **syn. n.**
*rosalinda* H. Edwards, 1880
***C. messalina*** Guenée, 1852
*belfragiana* Harvey, 1875
*jocasta* Strecker, 1875
***C. micronympha*** Guenée, 1852
*atarah* Strecker, 1874
*fratercula* Grote & Robinson, 1866
*gisela* J. Meyer, 1880
*helene* Pilate, 1882
*hero* Hulst, 1884
*hero* H. Edwards, 1884 (preocc.)
*jacquenetta* H. Edwards, 1880
*jaquenetta* McDunnough, 1938 missp.
*lolita* Sargent, 1976
*ouwah* Poling, 1901
*sargenti* Covell, 1978
*timandra* H. Edwards, 1880
***C. minuta*** W.H. Edwards, 1864
*eureka* Schwarz, 1919
*hiseri* Cassino, 1918
*mellitula* Hulst, 1884
*obliterata* Schwarz, 1919 (preocc.)
*parvula* W.H. Edwards, 1864
***C. mira*** Grote, 1876
*dana* Cassino, 1918, **syn. n.**
***C. miranda*** H. Edwards, 1881
***C. muliercula*** Guenée, 1852
*peramans* Hulst, 1884
***C. nebulosa*** W.H. Edwards, 1864
*ponderosa* Grote & Robinson, 1866
***C. neogama*** (J.E. Smith, 1797)
a. ***neogama*** (J.E. Smith, 1797)
*communis* Grote, 1872
*loretta* Barnes & McDunnough, 1918, **syn. n.**
*mildredae* Franclemont, 1938
b. ***euphemia*** Beutenmüller, 1907, **stat. n.**
*arizonae* (Strand, 1913) (preocc.)
***C. nuptialis*** Walker, [1858]
*myrrha* Strecker, 1874
***C. obscura*** Strecker, 1873
*obvia* Schwarz, 1919
*simulatilis* Grote, 1874
***C. ophelia*** H. Edwards, 1880
*dollii* Beutenmüller, 1907
***C. orba*** Kusnezov, 1903
***C. palaeogama*** Guenée, 1852
*annida* Fager, 1882
*phalanga* Grote, 1864
*snowiana* Grote, 1876
***C. parta*** Guenée, 1852
*forbesi* Franclemont, 1938
*perplexa* Strecker, 1873
*petulans* Hulst, 1884
***C. piatrix*** Grote, 1864
a. ***piatrix*** Grote, 1864
b. ***dionyza*** H. Edwards, 1885
***C. praeclara*** Grote & Robinson, 1866
a. ***praeclara*** Grote & Robinson, 1866
b. ***charlottae*** Brou, 1988, **stat. n.**
c. ***manitoba*** Beutenmüller, 1908, **stat. n.**
***C. pretiosa*** Lintner, 1876
a. ***pretiosa*** Lintner, 1876
b. ***texarkana*** Brower, 1976, **stat. n.**
*bridwelli* Brower, 1976
***C. relicta*** Walker, [1858]
*bianca* H. Edwards, 1880
*clara* Beutenmüller, 1903
*elda* Behrens, 1887, **syn. n.**

*fischeri* H. Meyer, 1952
*phrynia* H. Edwards, 1880
***C. residua*** Grote, 1874
***C. retecta*** Grote, 1872
***C. robinsonii*** Grote, 1872
*curvata* French, 1881
*missouriensis* Schwarz, 1915
***C. sappho*** Strecker, 1874
*cleis* Cassino, 1918
***C. semirelicta*** Grote, 1874
a. ***semirelicta*** Grote, 1874
*atala* Cassino, 1918
*montana* Beutenmüller, 1907
*nevadensis* Beutenmüller, 1907, **syn. n.**
*nigra* Eastman, 1916 (preocc.)
*pura* Hulst, 1880, **syn. n.**
b. ***hippolyta*** Strecker, 1874, **stat. n.**
*hippolyta* H. Edwards, 1875 (preocc.)
*walteri* Schwarz, 1923
***C. serena*** W.H. Edwards, 1864
***C. similis*** W.H. Edwards, 1864
*aholah* Strecker, 1874
*formula* Grote & Robinson, 1866
*isabella* H. Edwards, 1880
***C. sordida*** Grote, 1877
*engelhardti* Lemmer, 1937
*metalomus* Mayfield, 1922
***C. subnata*** Grote, 1864
*subnatana* (Strand, 1913)
***C. texanae*** French, 1902
***C. ulalume*** Strecker, 1878
***C. ultronia*** (Hübner, 1823)
*adriana* H. Edwards, 1880
*celia* H. Edwards, 1880
*lucinda* Beutenmüller, 1907
*mopsa* H. Edwards, 1880
*nigrescens* Cassino, 1917
***C. umbrosa*** Brou, 2002
*confusa* Worthington, 1883
***C. unijuga*** Walker, [1858]
*agatha* Beutenmüller, 1907
*cassinoi* Beutenmüller, 1918
*fletcherii* Beutenmüller, 1903
*helena* Cassino, 1917 (preocc.)
*lucilla* Worthington, 1883
*patricia* Cassino, 1917
***C. verrilliana*** Grote, 1875
*beutenmuelleri* Barnes & McDunnough, 1910, **syn. n.**
*verneri* Hampson, 1913 missp.
*votiva* Hulst, 1884
*werneri* Biederman, 1909
***C. vidua*** (J.E. Smith, 1797)
*desperata* Guenée, 1852
*viduata* Guenée, 1852 missp.
***C. violenta*** H. Edwards, 1880
*chiracahua* McDunnough, 1938 missp.
*chiricahua* Poling, 1901
***C. whitneyi*** Dodge, 1874
*obscura* Draudt, 1939 (preocc.)
*vhitneyi* Hampson, 1912 missp.

## Appendix 2: Phylogenetic list of North American species of *Catocala*

***Catocala*** Schrank, 1802

***innubens*** Guenée, 1852
***piatrix*** Grote, 1864
a. ***piatrix*** Grote, 1864
b. ***dionyza*** H. Edwards, 1885
***consors*** (J.E. Smith, 1797)
***epione*** (Drury, 1773)
***muliercula*** Guenée, 1852
***antinympha*** (Hübner, [1823])
***badia*** Grote & Robinson, 1866
a. ***badia*** Grote & Robinson, 1866
b. ***coelebs*** Grote, 1874
***habilis*** Grote, 1872
***robinsonii*** Grote, 1872
***angusi*** Grote, 1876
***judith*** Strecker, 1874
***serena*** W.H. Edwards, 1864
***obscura*** Strecker, 1873
***residua*** Grote, 1874
***flebilis*** Grote, 1872
***sappho*** Strecker, 1874
***retecta*** Grote, 1872
***luctuosa*** Hulst, 1884
***ulalume*** Strecker, 1878
***dejecta*** Strecker, 1880
***insolabilis*** Guenée, 1852
***vidua*** (J.E. Smith, 1797)
***lacrymosa*** Guenée, 1852
***palaeogama*** Guenée, 1852
***agrippina*** Strecker, 1874
***atocala*** Brou, 1985
***nebulosa*** W.H. Edwards, 1864
***subnata*** Grote, 1864
***maestosa*** Hulst, 1884
***neogama*** (J.E. Smith, 1797)
a. ***neogama*** (J.E. Smith, 1797)
b. ***euphemia*** Beutenmüller, 1907
***aholibah*** Strecker, 1874
***ilia*** (Cramer, 1776)
a. ***ilia*** (Cramer, 1776)
b. ***zoe*** Behr, 1870
***umbrosa*** Brou, 2002
***cerogama*** Guenée, 1852
***relicta*** Walker, [1858]
***marmorata*** W.H. Edwards, 1864
***unijuga*** Walker, [1858]
***parta*** Guenée, 1852
***irene*** Behr, 1870
***luciana*** Strecker, 1874
***faustina*** Strecker, 1873
a. ***faustina*** Strecker, 1873
b. ***cleopatra*** Strecker, 1874
c. ***allusa*** Hulst, 1884
***hermia*** H. Edwards, 1880
a. ***hermia*** H. Edwards, 1880
b. ***francisca*** H. Edwards, 1880
***californica*** W.H. Edwards, 1864
***briseis*** W.H. Edwards, 1864
***grotiana*** Bailey, 1879
***semirelicta*** Grote, 1874
a. ***semirelicta*** Grote, 1874
b. ***hippolyta*** Strecker, 1874
***meskei*** Grote, 1873
***jessica*** H. Edwards, 1877
***junctura*** Walker, [1858]
***texanae*** French, 1902
***electilis*** Walker, [1858]
***cara*** Guenée, 1852
***carissima*** Hulst, 1880
***concumbens*** Walker, [1858]
***amatrix*** (Hübner, [1813])
***delilah*** Strecker, 1874
***desdemona*** H. Edwards, 1882
***caesia*** Hawks, 2010
***frederici*** Grote, 1872
***benjamini*** Brower, 1937
a. ***benjamini*** Brower, 1937
b. ***ute*** Peacock & Wagner, 2009

c. ***jumpi*** Hawks, 2010
d. ***mayhewi*** Hawks, 2010
***andromache*** H. Edwards, 1885
***californiensis*** Brower, 1976
***johnsoniana*** Brower, 1976
***mcdunnoughi*** Brower, 1937
***chelidonia*** Grote, 1881
a. ***chelidonia*** Grote, 1881
b. ***occidentalis*** Hawks, 2010
c. ***uniforma*** Hawks, 2010
***illecta*** Walker, [1858]
***abbreviatella*** Grote, 1872
***nuptialis*** Walker, [1858]
***whitneyi*** Dodge, 1874
***amestris*** Strecker, 1874
***messalina*** Guenée, 1852
***sordida*** Grote, 1877
***gracilis*** W.H. Edwards, 1864
***louiseae*** Bauer, 1965
***andromedae*** Guenée, 1852
***herodias*** Strecker, 1876
a. ***herodias*** Strecker, 1876
b. ***gerhardi*** Barnes & Benjamin, 1927
***coccinata*** Grote, 1872
***verrilliana*** Grote, 1875
***violenta*** H. Edwards, 1880
***ophelia*** H. Edwards, 1880
***ultronia*** (Hübner, 1823)
***miranda*** H. Edwards, 1881
***orba*** Kusnezov, 1903
***mira*** Grote, 1876
***grynea*** (Cramer, 1780)
***crataegi*** Saunders, 1876
***praeclara*** Grote & Robinson, 1866
a. ***praeclara*** Grote & Robinson, 1866
b. ***manitoba*** Beutenmüller, 1908
c. ***charlottae*** Brou, 1988
***alabamae*** Grote, 1875
***pretiosa*** Lintner, 1876
a. ***pretiosa*** Lintner, 1876
b. ***texarkana*** Brower, 1976
***lincolnana*** Brower, 1976
***blandula*** Hulst, 1884
***dulciola*** Grote, 1881
***clintonii*** Grote, 1864
***grisatra*** Brower, 1936
***similis*** W.H. Edwards, 1864
***minuta*** W.H. Edwards, 1864
***micronympha*** Guenée, 1852
***connubialis*** Guenée, 1852
***amica*** (Hübner, 1818)
***lineella*** Grote, 1872
***jair*** Strecker, 1897